California Department of Education

California Standardized Testing and Reporting

California Standards Tests Technical Report

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Educational Testing Service (ETS)

Table of Contents

Chapters

Chapter 1: Introduction **1**
Background 1
California Standardized Tests (CSTs) 1
New Science CSTs in 2005 3
Overview of the Technical Report 3
Chapter 2: CST Development Procedures **4**
Test Assembly Procedures 4
Test Specifications 4
Statistical Specifications 4
Content Specifications 4
Item Development 6
Item Review Process 6
Internal Reviews 7
Assessment Review Panels 8
SPAR Review Panel 9
Technical Characteristics of the Assembled Tests 10
Item Development for 2006 11
References 12
Appendix 2.A — Reporting Clusters 13
English-Language Arts 13
History-Social Science 15
Mathematics 15
Science 18
Appendix 2.B — Characteristics Tables 22
Chapter 3: CST Equating Procedures **25**
Test Construction and Review 25
Post-administration Operational Equating 25
Calibration 25
Scaling 26
True score equating 27
Equating the Braille Versions of the CSTs 29
Equating Samples 29
Scaling the Integrated Science CSTs 30
References 34
Appendix 3.A — Reference Form Conversions Tables 35
Appendix 3.B — New Form Conversions Tables 52
Chapter 4: Validity **74**
Validity Evidence Based on Test Content 74
Evidence Based on Relations to Other Variables 74
CST ELA versus CAT/6 Survey Reading/Language/Spelling 75
CST Math versus CAT/6 Survey Math 75
CST Science versus CAT/6 Survey Science 75
References 76
Appendix 4.A — Test Correlations Tables 77
Chapter 5: Score Reports **78**
Descriptions of Scores 78
Raw Score 78
Scale Score 78
Proficiency Levels 78
Score Reporting 79
Score Report Applications 79
Score Report Contents 80

Score Distributions and Summary Statistics 80
References 84
Appendix 5.A — Types of Score Reports Tables 85
Appendix 5.B — Scale Score Distribution Tables 87

Chapter 6: Test Fairness 90
Demographic Distributions 90
Test Variations, Accommodations and Modifications 92
Category 1: Test Variations 93
Category 2: Accommodations 93
Category 3: Modifications 93
Accommodation Summaries 93
DIF Analyses 94
Test Security and Confidentiality 96
ETS's Office of Testing Integrity (OTI) 96
Test development 96
Item review 96
Item bank 97
Transfer of forms and items to CDE 97
Test administration 98
Test Delivery 98
Processing and Scoring 98
Transfer of scores via secure data exchange 99
Statistical Analysis 99
Reporting and Posting Results 100
Student Confidentiality 100
Test Results 100
References 102
Appendix 6.A — Demographic Summary Tables 103
Appendix 6.B — Test Variations, Accommodations, and Modifications 139
Appendix 6.C — Accommodation Summary Tables 142
Appendix 6.D — DIF Tables 216

Chapter 7: Item Quality 237
Item Analyses 239
IRT Analyses 241
Summaries on IRT b-values 241
IRT Model-Data Fit Analyses 242
Summary of Item-Level Analyses 244
References 245
Appendix 7.A — Item-by-Item p-value and Point-Biserial Tables 246
Appendix 7.B — IRT Tables 260

Chapter 8: Reliability 282
Reliability 282
Inter-correlations, Reliabilities, and SEMs for Reporting Clusters 284
Subgroup Reliabilities, and SEMs 284
Conditional Standard Errors of Measurement 285
Decision Classification Analyses 286
References 288
Appendix 8.A — Reliabilities and SEM Tables 289
Appendix 8.B — Classification Reliability Tables 327

Chapter 9: Constructed Response Items 340
Grade 4 and 7 Writing Test Composition 340
Scoring Rubric 340
Rater Characteristics 341
Scoring Supervisors and Directors 341
Accuracy and Bias Monitoring 342
Essay and Rater Agreement Summary 343
Composite Reliability for Grades 4 and 7 344
Distributions and Means of Writing Scores — Overall and by Subgroup 344
References 346

Appendix 9.A — Writing Scoring Rubrics 347
Grade Four Scoring Rubric 347
Grade Seven Scoring Rubric 349
Appendix 9.B — Essay Results Tables 353
Chapter 10: Historical Comparisons 356
Examinee Performance 356
Test Characteristics 356
References 358
Appendix 10.A — Historical Comparisons Tables 359
Appendix 10.B 365
Mean IRT b-value 366
Glossary of Terms 369
References 373

Tables

Table 2.1: Statistical Specifications for CSTs 5
Table 2.B.1: Summary of 2005 CST Projected Technical Characteristics 22
Table 2.B.2: Comparison of Target Statistical Specifications, Projected Statistics, and Observed Statistics for the CSTs 23
Table 3.1: Evaluation of Common Items between New and Reference Test Forms 27
Table 3.2: Summary Statistics for the Reference Form and 2005 Equating Samples 31
Table 3.3: Scale Scores Defining the Various Proficiency Level Cut Points 33
Table 3.A.1: 2005 Reference Form Conversions for English-Language Arts Grades 2 and 3 from 2003 Administration 35
Table 3.A.2: 2005 Reference Form Conversions for English-Language Arts Grade 4 (with and without essay) from 2003 Administration 36
Table 3.A.3: 2005 Reference Form Conversions for English-Language Arts Grades 5 and 6 from 2003 Administration 37
Table 3.A.4: 2005 Reference Form Conversions for English-Language Arts Grade 7 (with and without essay) from 2003 Administration 38
Table 3.A.5: 2005 Reference Form Conversions for English-Language Arts Grades 8 and 9 from 2003 Administration 39
Table 3.A.6: 2005 Reference Form Conversions for English-Language Arts Grades 10 and 11 from 2003 Administration 40
Table 3.A.7: 2005 Reference Form Conversion for History-Social Science Grade 8 from 2003 Administration 41
Table 3.A.8: 2005 Reference Form Conversions for History-Social Science Grades 10 and 11 from 2002 Administration 42
Table 3.A.9: 2005 Reference Form Conversions for Mathematics Grades 2 to 7 from 2003 Administration 43
Table 3.A.10: 2005 Reference Form Conversions for General Math, Algebra I, Geometry, Algebra II, and Summative High School Math from 2002 Administration 45
Table 3.A.11: 2005 Reference Form Conversions for Integrated Mathematics 1, 2, and 3 from 2003 Administration47
Table 3.A.12: 2005 Reference Form Conversion for Grade 5 Science from 2004 Administration 49
Table 3.A.13: 2005 Reference Form Conversions for Biology, Chemistry, Earth Science, and Physics from 2002 Administration 50
Table 3.B.1: 2005 New Form Conversions for English-Language Arts Grades 2 and 3 52
Table 3.B.2: 2005 New Form Conversions for English-Language Arts Grade 4 (with and without essay) 53
Table 3.B.3: 2005 New Form Conversions for English-Language Arts Grades 5 and 6 54
Table 3.B.4: 2005 New Form Conversions for English-Language Arts Grade 7 (with and without essay) 55
Table 3.B.5: 2005 New Form Conversions for English-Language Arts Grades 8 and 9 56
Table 3.B.6: 2005 New Form Conversions for English-Language Arts Grades 10 and 11 57

Table 3.B.7: 2005 New Form Conversions for History-Social Science Grade 8....58
Table 3.B. 8: 2005 New Form Conversions for History-Social Science Grades 10 and 11....59
Table 3.B. 9: 2005 New Form Conversions for Mathematics Grades 2 to 4....60
Table 3.B.10: 2005 New Form Conversions for Mathematics Grades 5 to 7....62
Table 3.B. 11: 2005 New Form Conversions for General Math, Algebra I, Geometry, Algebra II, and Summative High School Math....64
Table 3.B.12: 2005 New Form Conversions for Integrated Mathematics 1, 2, and 3....66
Table 3.B.13: 2005 New Form Conversions for Grade 5 Science....68
Table 3.B.14: 2005 New Form Conversions for Biology, Chemistry, Earth Science, and Physics....70
Table 3.B.15: 2005 New Form Conversions for Integrated Science 1, 2, 3, and 4....72
Table 4.A.1: Correlations between English-Language Arts CSTs and CAT/6 Survey Tests....77
Table 4.A.2: Correlations Between Grade-specific Mathematics CSTs and CAT/6 Survey Mathematics Tests....77
Table 4.A.3: Correlations between End-of-Course Mathematics CSTs and CAT/6 Survey Mathematics Tests....77
Table 4.A.4: Correlations between End-of-Course Science CSTs and CAT/6 Survey Science Tests....77
Table 5.1: Mean and Standard Deviation of Raw and Scale Scores for CSTs....81
Table 5. 2: Percentage of Examinees in Proficiency Levels for CSTs....82
Table 5.A.1: Score Reports Reflecting CST Results....85
Table 5.B.1: Distribution of CST Scale Scores for English-Language Arts....87
Table 5.B.2: Distribution of CST Scale Scores for History-Social Science....87
Table 5.B.3: Distribution of CST Scale Scores for Mathematics Grade 2 through 7....88
Table 5.B. 4: Distribution of Scale Scores for Mathematics End-of-Course CSTs....88
Table 5.B.5: Distribution of CST Scale Scores for Science....89
Table 6.1: Subgroup Definitions....91
Table 6.A.1: Demographic Summary for English-Language Arts Grade 2....103
Table 6.A.2: Demographic Summary for English-Language Arts Grade 3....104
Table 6.A.3: Demographic Summary for English-Language Arts Grade 4....105
Table 6.A.4: Demographic Summary for English-Language Arts Grade 5....106
Table 6.A.5: Demographic Summary for English-Language Arts Grade 6....107
Table 6.A.6: Demographic Summary for English-Language Arts Grade 7....108
Table 6.A.7: Demographic Summary for English-Language Arts Grade 8....109
Table 6.A.8: Demographic Summary for English-Language Arts Grade 9....110
Table 6.A.9: Demographic Summary for English-Language Arts Grade 10....111
Table 6.A.10: Demographic Summary for English-Language Arts Grade 11....112
Table 6.A.11: Demographic Summary for History-Social Science Grade 8....113
Table 6.A.12: Demographic Summary for History-Social Science Grade 10....114
Table 6.A.13: Demographic Summary for History-Social Science Grade 11....115
Table 6.A.14: Demographic Summary for Mathematics Grade 2....116
Table 6.A.15: Demographic Summary for Mathematics Grade 3....117
Table 6.A.16: Demographic Summary for Mathematics Grade 4....118
Table 6.A.17: Demographic Summary for Mathematics Grade 5....119
Table 6.A.18: Demographic Summary for Mathematics Grade 6....120
Table 6.A.19: Demographic Summary for Mathematics Grade 7....121
Table 6.A.20: Demographic Summary for General Mathematics....122
Table 6.A.21: Demographic Summary for Algebra I....123
Table 6.A.22: Demographic Summary for Geometry....124
Table 6.A.23: Demographic Summary for Algebra II....125
Table 6.A.24: Demographic Summary for Summative High School Mathematics....126

Table 6.A.25: Demographic Summary for Integrated Mathematics 1 127
Table 6.A.26: Demographic Summary for Integrated Mathematics 2 128
Table 6.A. 27: Demographic Summary for Integrated Mathematics 3 129
Table 6.A.28: Demographic Summary for Science Grade 5....130
Table 6.A.29: Demographic Summary for Biology 131
Table 6.A.30: Demographic Summary for Chemistry 132
Table 6.A.31: Demographic Summary for Earth Science....133
Table 6.A.32: Demographic Summary for Physics....134
Table 6.A.33: Demographic Summary for Integrated Science 1....135
Table 6.A.34: Demographic Summary for Integrated Science 2....136
Table 6.A.35: Demographic Summary for Integrated Science 3....137
Table 6.A.36: Demographic Summary for Integrated Science 4....138
Table 6.B.1: Matrix of Test Variations, Accommodations, and Modifications....139
Table 6.C.1: Accommodation Summary for English-Language Arts Grade 2 142
Table 6.C.2: Accommodation Summary for English-Language Arts Grade 3 144
Table 6.C.3: Accommodation Summary for English-Language Arts Grade 4 146
Table 6.C.4: Accommodation Summary for English-Language Arts Grade 5 149
Table 6.C.5: Accommodation Summary for English-Language Arts Grade 6 151
Table 6.C.6: Accommodation Summary for English-Language Arts Grade 7 153
Table 6.C.7: Accommodation Summary for English-Language Arts Grade 8 156
Table 6.C.8: Accommodation Summary for English-Language Arts Grade 9 158
Table 6.C.9: Accommodation Summary for English-Language Arts Grade 10 160
Table 6.C.10: Accommodation Summary for English-Language Arts Grade 11 162
Table 6.C.11: Accommodation Summary for History-Social Science Grade 8....164
Table 6.C.12: Accommodation Summary for History-Social Science Grade 10....166
Table 6.C.13: Accommodation Summary for History-Social Science Grade 11....168
Table 6.C.14: Accommodation Summary for Mathematics Grade 2 170
Table 6.C.15: Accommodation Summary for Mathematics Grade 3 172
Table 6.C.16: Accommodation Summary for Mathematics Grade 4 174
Table 6.C.17: Accommodation Summary for Mathematics Grade 5 176
Table 6.C.18: Accommodation Summary for Mathematics Grade 6 178
Table 6.C.19: Accommodation Summary for Mathematics Grade 7 180
Table 6.C.20: Accommodation Summary for General Mathematics....182
Table 6.C.21: Accommodation Summary for Algebra I 184
Table 6.C.22: Accommodation Summary for Geometry 186
Table 6.C.23: Accommodation Summary for Algebra II....188
Table 6.C.24: Accommodation Summary for Summative High School Mathematics 190
Table 6.C.25: Accommodation Summary for Integrated Mathematics 1 192
Table 6.C.26: Accommodation Summary for Integrated Mathematics 2 194
Table 6.C.27: Accommodation Summary for Integrated Mathematics 3 196
Table 6.C.28: Accommodation Summary for Science Grade 5....198
Table 6.C.29: Accommodation Summary for Biology 200
Table 6.C.30: Accommodation Summary for Chemistry 202
Table 6.C.31: Accommodation Summary for Earth Science....204
Table 6.C.32: Accommodation Summary for Physics....206
Table 6.C.33: Accommodation Summary for Integrated Science 1....208

Table 6.C.34: Accommodation Summary for Integrated Science 2 210
Table 6.C.35: Accommodation Summary for Integrated Science 3 212
Table 6.C.36: Accommodation Summary for Integrated Science 4 214
Table 6.D.1: Operational Items Exhibiting Significant Negative DIF 216
Table 6.D.2: Field-test Items Exhibiting Significant Negative DIF 217
Table 6.D.3: DIF Classifications for English-Language Arts Grade 2 Operational Items 218
Table 6.D.4: DIF Classifications for English-Language Arts Grade 3 Operational Items 218
Table 6.D.5: DIF Classifications for English-Language Arts Grade 4 Operational Items 218
Table 6.D.6: DIF Classifications for English-Language Arts Grade 5 Operational Items 218
Table 6.D.7: DIF Classifications for English-Language Arts Grade 6 Operational Items 219
Table 6.D. 8: DIF Classifications for English-Language Arts Grade 7 Operational Items 219
Table 6.D.9: DIF Classifications for English-Language Arts Grade 8 Operational Items 219
Table 6.D.10: DIF Classifications for English-Language Arts Grade 9 Operational Items 219
Table 6.D.11: DIF Classifications for English-Language Arts Grade 10 Operational Items 220
Table 6.D.12: DIF Classifications for English-Language Arts Grade 11 Operational Items 220
Table 6.D.13: DIF Classifications for History-Social Science Grade 8 Operational Items 220
Table 6.D.14: DIF Classifications for History-Social Science Grade 10 Operational Items 220
Table 6.D.15: DIF Classifications for History-Social Science Grade 11 Operational Items 221
Table 6.D.16: DIF Classifications for Mathematics Grade 2 Operational Items 221
Table 6.D.17: DIF Classifications for Mathematics Grade 3 Operational Items 221
Table 6.D.18: DIF Classifications for Mathematics Grade 4 Operational Items 221
Table 6.D.19: DIF Classifications for Mathematics Grade 5 Operational Items 222
Table 6.D.20: DIF Classifications for Mathematics Grade 6 Operational Items 222
Table 6.D.21: DIF Classifications for Mathematics Grade 7 Operational Items 222
Table 6.D.22: DIF Classifications for General Mathematics Operational Items 222
Table 6.D.23: DIF Classifications for Algebra I Operational Items 223
Table 6.D.24: DIF Classifications for Geometry Operational Items 223
Table 6.D.25: DIF Classifications for Algebra II Operational Items 223
Table 6.D.26: DIF Classifications for Summative High School Mathematics Operational Items 223
Table 6.D.27: DIF Classifications for Integrated Mathematics 1 Operational Items 224
Table 6.D.28: DIF Classifications for Integrated Mathematics 2 Operational Items 224
Table 6.D.29: DIF Classifications for Integrated Mathematics 3 Operational Items 224
Table 6.D.30: DIF Classifications for Science Grade 5 Operational Items 224
Table 6.D.31: DIF Classifications for Biology Operational Items 225
Table 6.D.32: DIF Classifications for Chemistry Operational Items 225
Table 6.D.33: DIF Classifications for Earth Science Operational Items 225
Table 6.D.34: DIF Classifications for Physics Operational Items 225
Table 6.D.35: DIF Classifications for Integrated Science 1 Operational Items 226
Table 6.D.36: DIF Classifications for Integrated Science 2 Operational Items 226
Table 6.D.37: DIF Classifications for Integrated Science 3 Operational Items 226
Table 6.D.38: DIF Classifications for Integrated Science 4 Operational Items 226
Table 6.D.39: DIF Classifications for English-Language Arts Grade 2 Field-test Items 227
Table 6.D.40: DIF Classifications for English-Language Arts Grade 3 Field-test Items 227
Table 6.D.41: DIF Classifications for English-Language Arts Grade 4 Field-test Items 227
Table 6.D.42: DIF Classifications for English-Language Arts Grade 5 Field-test Items 227
Table 6.D.43: DIF Classifications for English-Language Arts Grade 6 Field-test Items 228

Table 6.D.44: DIF Classifications for English-Language Arts Grade 7 Field-test Items 228
Table 6.D.45: DIF Classifications for English-Language Arts Grade 8 Field-test Items 228
Table 6.D.46: DIF Classifications for English-Language Arts Grade 9 Field-test Items 228
Table 6.D.47: DIF Classifications for English-Language Arts Grade 10 Field-test Items 229
Table 6.D.48: DIF Classifications for English-Language Arts Grade 11 Field-test Items 229
Table 6.D.49: DIF Classifications for History-Social Science Grade 8 Field-test Items....229
Table 6.D.50: DIF Classifications for History-Social Science Grade 10 Field-test Items....229
Table 6.D.51: DIF Classifications for History-Social Science Grade 11 Field-test Items....230
Table 6.D.52: DIF Classifications for Mathematics Grade 2 Field-test Items 230
Table 6.D.53: DIF Classifications for Mathematics Grade 3 Field-test Items 230
Table 6.D.54: DIF Classifications for Mathematics Grade 4 Field-test Items 230
Table 6.D.55: DIF Classifications for Mathematics Grade 5 Field-test Items 231
Table 6.D.56: DIF Classifications for Mathematics Grade 6 Field-test Items 231
Table 6.D.57: DIF Classifications for Mathematics Grade 7 Field-test Items 231
Table 6.D.58: DIF Classifications for General Mathematics Field-test Items 231
Table 6.D.59: DIF Classifications for Algebra I Field-test Items....232
Table 6.D.60: DIF Classifications for Geometry Field-test Items 232
Table 6.D.61: DIF Classifications for Algebra II Field-test Items 232
Table 6.D.62: DIF Classifications for Summative High School Mathematics Field-test Items 232
Table 6.D.63: DIF Classifications for Integrated Mathematics 1 Field-test Items 233
Table 6.D. 64: DIF Classifications for Integrated Mathematics 2 Field-test Items 233
Table 6.D.65: DIF Classifications for Integrated Mathematics 3 Field-test Items 233
Table 6.D.66: DIF Classifications for Science Grade 5 Field-test Items....233
Table 6.D.67: DIF Classifications for Biology Field-test Items 234
Table 6.D.68: DIF Classifications for Chemistry Field-test Items 234
Table 6.D.69: DIF Classifications for Earth Science Field-test Items....234
Table 6.D.70: DIF Classifications for Physics Field-test Items....234
Table 6.D.71: DIF Classifications for Integrated Science 1 Field-test Items....235
Table 6.D.72: DIF Classifications for Integrated Science 2 Field-test Items....235
Table 6.D.73: DIF Classifications for Integrated Science 3 Field-test Items....235
Table 6.D.74: DIF Classifications for Integrated Science 4 Field-test Items....235
Table 6.D.75: DIF Classifications for Science Grade 8 Field-test Items....236
Table 6.D.76: DIF Classifications for Life Science Field-test Items....236
Table 7.1: Summary of Items and Forms Presented in 2005 CSTs....238
Table 7.2: Average (and Median) Proportion Correct and Point-Biserial....240
Table 7.A.1: Item-by-item p-value and Point-Biserial for English-Language Arts....246
Table 7.A.2: Item-by-item p-value and Point-Biserial for History-Social Science 248
Table 7.A.3: Item-by-item p-value and Point-Biserial for Mathematics 250
Table 7.A.4: Item-by-item p-value and Point-Biserial for Mathematics Grade-specific CSTs 254
Table 7.A.5: Item-by-item p-value and Point-Biserial for Science....256
Table 7.B.1: IRT b-values for English-Language Arts Grade 2....260
Table 7.B.2: IRT b-values for English-Language Arts Grade 3....260
Table 7.B.3: IRT b-values for English-Language Arts Grade 4....260
Table 7.B.4: IRT b-values for English-Language Arts Grade 5....261
Table 7.B.5: IRT b-values for English-Language Arts Grade 6....261
Table 7.B.6: IRT b-values for English-Language Arts Grade 7....261

Table 7.B. 7: IRT b-values for English-Language Arts Grade 8 262
Table 7.B.8: IRT b-values for English-Language Arts Grade 9 262
Table 7.B.9: IRT b-values for English-Language Arts Grade 10 262
Table 7.B.10: IRT b-values for English-Language Arts Grade 11 263
Table 7.B.11: IRT b-values for History-Social Science Grade 8 263
Table 7.B.12: IRT b-values for History-Social Science Grade 10 263
Table 7.B.13: IRT b-values for History-Social Science Grade 11 264
Table 7.B.14: IRT b-values for Mathematics Grade 2 264
Table 7.B.15: IRT b-values for Mathematics Grade 3 264
Table 7.B.16: IRT b-values for Mathematics Grade 4 265
Table 7.B.17: IRT b-values for Mathematics Grade 5 265
Table 7.B.18: IRT b-values for Mathematics Grade 6 265
Table 7.B.19: IRT b-values for Mathematics Grade 7 266
Table 7.B.20: IRT b-values for General Mathematics 266
Table 7.B.21: IRT b-values for Algebra I 266
Table 7.B.22: IRT b-values for Geometry 267
Table 7.B.23: IRT b-values for Algebra II 267
Table 7.B.24: IRT b-values for Summative High School Mathematics 267
Table 7.B.25: IRT b-values for Integrated Mathematics 1 268
Table 7.B.26: IRT b-values for Integrated Mathematics 2 268
Table 7.B.27: IRT b-values for Integrated Mathematics 3 268
Table 7.B.28: IRT b-values for Science Grade 5 269
Table 7.B.29: IRT b-values for Biology 269
Table 7.B.30: IRT b-values for Chemistry 269
Table 7.B.31: IRT b-values for Earth Science 270
Table 7.B.32: IRT b-values for Physics 270
Table 7.B.33: IRT b-values for Science Grade 8 270
Table 7.B.34: IRT b-values for Life Science 270
Table 7.B.35: Distribution of IRT b-values for English-Language Arts 271
Table 7.B.36: Distribution of IRT b-values for History-Social Science 271
Table 7.B.37: Distribution of IRT b-values for Mathematics Grade 2 through 7 272
Table 7.B.38: Distribution of IRT b-values for Mathematics End-of-Course CSTs 272
Table 7.B.39: Distribution of IRT b-values for Science 273
Table 7.B.40: Distribution of IRT b-values for English-Language Arts (field-test items) 273
Table 7.B.41: Distribution of IRT b-values for History-Social Science (field-test items) 274
Table 7.B.42: Distribution of IRT b-values for Mathematics Grade 2 through 7 (field-test items) 274
Table 7.B.43: Distribution of IRT b-values for Mathematics End-of-Course CSTs (field-test items) 275
Table 7.B.44: Distribution of IRT b-values for Science (field-test items) 275
Table 7.B.45: IRT Model Data Fit Distribution for English-Language Arts 276
Table 7.B.46: IRT Model Data Fit Distribution for History-Social Science Grades 8, 10, 11 277
Table 7.B.47: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7 277
Table 7.B.48: IRT Model Data Fit Distribution for Mathematics End-of-Course Tests 277
Table 7.B. 49: IRT Model Data Fit Distribution for Science 278
Table 7.B.50: IRT Model Data Fit Distribution for English-Language Arts (field-test items) 279
Table 7.B.51: IRT Model Data Fit Distribution for History-Social Science Grades 8, 10, 11 (field-test items) 280
Table 7.B.52: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7 (field-test items) 280

Table 7.B.53: IRT Model Data Fit Distribution for Mathematics End-of-Course Tests (field-test items) 280
Table 7.B.54: IRT Model Data Fit Distribution for Science (field-test items) 281
Table 8. 1: Reliabilities and Standard Errors of Measurement for the CSTs....283
Table 8.2: Summary of Differences Between Subgroup Reliabilities 285
Table 8.3: Scale Score Conditional Standard Error of Measurement at Cut Points....286
Table 8.A.1: Subscore Reliabilities and Correlations for English-Language Arts 289
Table 8.A.2: Subscore Reliabilities and Correlations for History-Social Science....291
Table 8.A.3: Subscore Reliabilities and Correlations for Mathematics....292
Table 8.A.4: Subscore Reliabilities and Correlations for Science....295
Table 8.A.5: Reliabilities and SEM for the CSTs by GENDER/NSLP....297
Table 8.A.6: Subscore Reliabilities and SEM for English-Language Arts by GENDER/NSLP....298
Table 8.A.7: Subscore Reliabilities and SEM for History-Social Science by GENDER/NSLP 300
Table 8.A.8: Subscore Reliabilities and SEM for Mathematics by GENDER/NSLP....301
Table 8.A.9: Subscore Reliabilities and SEM for Science by GENDER/NSLP 304
Table 8.A.10: Reliabilities and SEM for the CSTs by SPECIAL SERVICES/LANGUAGE FLUENCY....306
Table 8.A.11: Subscore Reliabilities and SEM for ELA by SPECIAL SERVICES/LANGUAGE FLUENCY....307
Table 8.A.12: Subscore Reliabilities and SEM for History-Social Science by SPECIAL SERVICES/LANGUAGE FLUENCY 309
Table 8.A.13: Subscore Reliabilities and SEM for Mathematics by SPECIAL SERVICES/LANGUAGE FLUENCY310
Table 8.A.14: Subscore Reliabilities and SEM for Science by SPECIAL SERVICES/LANGUAGE FLUENCY 314
Table 8.A.15: Reliabilities and SEM for the CSTs by PRIMARY ETHNICITY 316
Table 8.A.16: Subscore Reliabilities and SEM for English-Language Arts by PRIMARY ETHNICITY....318
Table 8.A.17: Subscore Reliabilities and SEM for History-Social Science by PRIMARY ETHNICITY 320
Table 8.A.18: Subscore Reliabilities and SEM for Mathematics by PRIMARY ETHNICITY 321
Table 8.A.19: Subscore Reliabilities and SEM for Science by PRIMARY ETHNICITY....325
Table 8.B.1: Reliability of Classification for English-Language Arts Grade 2 327
Table 8.B.2: Reliability of Classification for English-Language Arts Grade 3 327
Table 8.B.3: Reliability of Classification for English-Language Arts Grade 4 (Reading only)....327
Table 8.B.4: Reliability of Classification for English-Language Arts Grade 4 (Reading and Writing) 328
Table 8.B.5: Reliability of Classification for English-Language Arts Grade 5 328
Table 8.B.6: Reliability of Classification for English-Language Arts Grade 6 328
Table 8.B.7: Reliability of Classification for English-Language Arts Grade 7 (Reading only)....329
Table 8.B.8: Reliability of Classification for English-Language Arts Grade 7 (Reading and Writing) 329
Table 8.B.9: Reliability of Classification for English-Language Arts Grade 8 329
Table 8.B.10: Reliability of Classification for English-Language Arts Grade 9 330
Table 8.B.11: Reliability of Classification for English-Language Arts Grade 10 330
Table 8.B.12: Reliability of Classification for English-Language Arts Grade 11 330
Table 8.B.13: Reliability of Classification for History-Social Science Grade 8....331
Table 8.B.14: Reliability of Classification for History-Social Science Grade 10....331
Table 8.B.15: Reliability of Classification for History-Social Science Grade 11....331
Table 8.B.16: Reliability of Classification for Mathematics Grade 2 332
Table 8.B.17: Reliability of Classification for Mathematics Grade 3 332
Table 8.B.18: Reliability of Classification for Mathematics Grade 4 332
Table 8.B.19: Reliability of Classification for Mathematics Grade 5 333
Table 8.B.20: Reliability of Classification for Mathematics Grade 6 333
Table 8.B.21: Reliability of Classification for Mathematics Grade 7 333
Table 8.B.22: Reliability of Classification for General Mathematics 334

Table 8.B.23: Reliability of Classification for Algebra I 334
Table 8.B.24: Reliability of Classification for Geometry 334
Table 8.B.25: Reliability of Classification for Algebra II 335
Table 8.B.26: Reliability of Classification for Summative High School Mathematics 335
Table 8.B.27: Reliability of Classification for Integrated Mathematics 1 335
Table 8.B.28: Reliability of Classification for Integrated Mathematics 2 336
Table 8.B.29: Reliability of Classification for Integrated Mathematics 3 336
Table 8.B.30: Reliability of Classification for Science Grade 5 336
Table 8.B.31: Reliability of Classification for Biology 337
Table 8.B.32: Reliability of Classification for Chemistry 337
Table 8.B.33: Reliability of Classification for Earth Science 337
Table 8.B.34: Reliability of Classification for Physics 338
Table 8.B.35: Reliability of Classification for Integrated Science 1 338
Table 8.B.36: Reliability of Classification for Integrated Science 2 338
Table 8.B.37: Reliability of Classification for Integrated Science 3 339
Table 8.B.38: Reliability of Classification for Integrated Science 4 339
Table 9.B.1: Inter-Rater Analyses for ELA Grade 4 353
Table 9.B.2: Inter-Rater Analyses for ELA Grade 7 353
Table 9.B.3: Descriptive Statistics for the Ratings by the Two Raters 353
Table 9.B.4: Generalizability Analyses for Grade 4 Essay — [(Person: Essay) x Rater Design] 353
Table 9.B.5: Generalizability Analyses for Grade 7 Essay — [(Person: Essay) x Rater Design)] 354
Table 9.B.6: Mean Scores for ELA Grade 4 Essay — Overall and by Subgroup 354
Table 9.B.7: Mean Scores for ELA Grade 7 Essay — Overall and by Subgroup 354
Table 9.B.8: Distribution of Essay Scores for ELA Grade 4 — Overall and by Subgroup 355
Table 9.B.9: Distribution of Essay Scores for ELA Grade 7 — Overall and by Subgroup 355
Table 10.A.1: Number of Examinees Tested, Scale Score Means and Standard Deviations of CSTs Across 2003, 2004, and 2005 359
Table 10.A.2: Percentage of Proficient and Above and Percentage of Advanced Across 2003, 2004, and 2005 360
Table 10.A.3: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for English-Language Arts (Grades 2 through 6) 361
Table 10.A.4: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for English-Language Arts (Grades 7 through 11) 361
Table 10.A.5: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for History-Social Science (Grades 8, 10, and 11) 362
Table 10.A.6: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Mathematics (Grades 2 through 6) 362
Table 10.A.7: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Mathematics (Grade 7, General Math, Algebra I, Geometry, and Algebra II) 363
Table 10.A.8: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Mathematics (Summative High School Math and Integrated Math 1, 2, and 3) 363
Table 10.A.9: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Science (Biology, Chemistry, Earth Science, and Physics) 364
Table 10.A.10: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Science (Integrated Science 1, 2, 3, and 4) 364
Table 10.B.1: Average Proportion Correct of CSTs across 2003, 2004, and 2005 365
Table 10.B.2: Overall IRT b-values for Operational Test Items across 2003, 2004, and 2005 366
Table 10.B.3: Average Point R-Biserial Correlation of CSTs across 2003, 2004, and 2005 367
Table 10.B.4: Reliabilities and Standard Error of Measurement (SEM) of CSTs across 2003, 2004, and 2005 368

Figures

Figure 7.1: Items from the 2005 History-Social Science Grade 10 Field-test Calibration 244

Chapter 1: Introduction

Background

In 1997 and 1998, the California State Board of Education adopted rigorous content standards in four major content areas: English-language arts, mathematics, history-social science, and science. These standards were designed to guide instruction and learning for all students in the state and to bring California students to world-class levels of achievement.

In order to measure and evaluate student achievement of the content standards, the State instituted the Standardized Testing and Reporting (STAR) Program. This Program, administered annually, was authorized in 1997 by State law (Senate Bill 376). Senate Bill 1448, approved by the Legislature and the Governor in August 2004, reauthorized the STAR Program through January 1, 2011, in grades three through eleven. STAR Program testing in grade two has been extended to the 2006–07 school year (spring 2007 administration).

The primary goal of the STAR Program is to help measure how well students are learning required academic skills. The STAR Program has four components:

- California Standards Tests (CSTs) produced for California public schools
- California Achievement Tests, Sixth Edition Survey (CAT/6 Survey), published by CTB/McGraw-Hill
- California Alternate Performance Assessment (CAPA), an assessment produced for students with significant cognitive disabilities who are not able to take the CSTs or the CAT/6 Survey
- Spanish Assessment of Basic Education, Second Edition (SABE/2), an achievement test in Spanish published by CTB/McGraw-Hill

The test components that make up the STAR Program provide results that can be used for different purposes. Test results:

- Provide parents and guardians with information about their children's progress.
- Are a tool for helping parents, guardians, and teachers work together to improve student learning.
- Help school districts and schools identify strengths and areas that need improvement in their educational programs.
- Allow the public and policymakers to hold public schools accountable for student learning.

STAR Program test results, along with other available information, help school staffs form a detailed picture of their students' academic achievement.

California Standardized Tests (CSTs)

The CSTs form the cornerstone of the STAR program. These assessments, given in English, are designed to show how well students are doing with respect to California content standards. These content standards, approved by the State Board of Education, describe what students should know and be able to do at each grade level. Students in grades two through eleven are tested in English-language arts and mathematics. In addition, students in grades five, nine, ten, and eleven take a science test, and students in grades eight, ten, and eleven are tested in history-social science.

All students enrolled in grades 2 through 11 in California public schools on the day testing began were required to take the CSTs (or CAPA). This also included English learners, regardless of the length of time they have been in California schools or their fluency in English, and students with disabilities who receive special education services. Parents could submit written requests to have their children exempted from any part or all of the tests. Only students with written parent requests were exempted from the tests. For students with significant cognitive disabilities, the decision to administer the CSTs (or CAPA) was made by their individualized education program (IEP) team.

This technical report addresses the characteristics of the California Standards Tests administered in Spring 2005. The 2005 CSTs included the following tests:

▪ English-Language Arts, grades 2 to 11	▪ History-Social Science, grades 8, 10, and 11
▪ Mathematics, grades 2 to 7	▪ Grade 5 Science
▪ General Mathematics, grades 8 and 9	▪ Biology
▪ Algebra I	▪ Chemistry
▪ Geometry	▪ Earth Science
▪ Algebra II	▪ Physics
▪ Summative High School Mathematics	▪ Integrated Science 1
▪ Integrated Mathematics 1	▪ Integrated Science 2
▪ Integrated Mathematics 2	▪ Integrated Science 3
▪ Integrated Mathematics 3	▪ Integrated Science 4

All CSTs are comprised of four-option multiple-choice items. The grades 4 and 7 English-Language Arts tests also include one essay item. These essay items are reported on an eight-point scale, which is based on the sum of two ratings on a four-point rubric.

The testing period for the CSTs is the period of all instructional days from March 15 to May 14 of each school year. The CSTs are administered at different times depending upon the progression of the school year within each particular district. Specifically, schools must administer the CSTs and the CAT/6 Survey tests within a 21-day window comprised of the 10 days before and 10 days after the day on which 85 percent of the instructional year is completed. The CSTs are administered in an un-timed fashion; CDE guidelines of times within which most students would be expected to finish the CSTs by test and grade level can be found at http://www.cde.ca.gov/ta/tg/sr/documents/itemchartv4.doc. [Note: the preceding Web address is no longer valid.]

Results of the CSTs are reported using scale scores, which in 2005 ranged for each test from 150 to 600. In addition, the CST test performance for each student is categorized into one of the following proficiency levels: far below basic, below basic, basic, proficient, and advanced. For all CSTs, the minimum scale scores defining basic and proficient are 300 and 350, respectively. The minimum scale scores defining below basic and advanced vary by CST.

In addition to total scale scores, CST score report information includes student performance on various reporting clusters. This information is reported in terms of percent correct scores.

All CSTs included a set of six field-test items that were not counted towards students' scores. Most CSTs consisted of several versions, each of which contained a different set of six field-test items.

New Science CSTs in 2005

Two new tests in science, required by federal No Child Left Behind (NCLB) legislation, were field-tested in grades eight and ten in the spring of 2005 as follows:

- The *Grade 8 California Science CST* will assess the grade eight science standards.
- The *Grade 10 California Life Science CST,* administered in grade ten, will assess selected middle-school life science standards and selected high school biology standards.
- In addition to the Grade 10 California Life Science CST, some grade ten students will also take a CST in science if they completed a standards-based course during the 2004–05 school year.

Overview of the Technical Report

This technical report is divided into ten chapters as described below.

- Chapter 2 describes the procedures followed in developing valid CST items and in constructing the 2005 CSTs. In addition, characteristics of the constructed 2005 test forms are presented in this chapter.
- Chapter 3 describes the procedures followed to equate and scale the CSTs and documents the CST score equating conversions. Both reference and new form conversions are presented for each CST.
- Chapter 4 details the procedures designed to ensure the validity aspect of CSTs.
- Chapter 5 describes the kinds of score reports that are produced at the end of each administration of CSTs. It also summaries the test-level analyses performed on scores obtained on the spring 2005 administration of the tests.
- Chapter 6 highlights the importance of maintaining fairness in the CSTs for various subgroups. This chapter summarizes demographic differences in performance, describes accommodations and modifications, and summarizes analyses of differential item functioning (DIF).
- Chapter 7 discusses the various types of evidence collected to ensure the acceptable quality of operational and field-test items. Summaries of classical item analysis statistics, Rasch difficulty estimates, and evaluations of the Rasch model-data fit are included in this chapter.
- Chapter 8 summarizes the reliability analyses, including test reliability, accuracy and consistency of the CST proficiency-level classifications, and intercorrelations of reporting cluster scores. Some of these analyses are also replicated for various subsections of the test-taking population in order to look at reliabilities at subgroup levels.
- Chapter 9 presents a comprehensive overview of the constructed response items administered at grades 4 and 7 as part of English-language arts tests.
- Chapter 10 presents historical comparisons of various item- and test-level indicators, over a period of three years.

Each chapter contains summary tables in the body of the text. However, extended appendices reporting technical data for the different CSTs are listed at the end of the relevant chapters.

Chapter 2: CST Development Procedures

The CSTs were constructed to measure the California content standards as well as to meet psychometric criteria for difficulty and reliability. The psychometric criteria were evaluated using projections based on item statistics from field-testing or previous operational administrations.

Test Assembly Procedures

Test blueprints for the components of the STAR Program were proposed by Educational Testing Service (ETS), reviewed and approved by the respective Assessment Review Panels (ARPs), reviewed and approved by the California Department of Education (CDE), and presented to the State Board of Education (SBE) for adoption. There have been no recent changes in the blueprints for the CSTs. For each test, the California content standards were used as a basis for choosing items. Additional technical targets (e.g., difficulty and discrimination) for test construction were established based on past characteristics of the tests, with the goal of maintaining parallel forms to the greatest extent possible.

Test Specifications

Statistical Specifications

The primary statistical targets used for CST test assembly in 2005 were the mean and standard deviation[1] of item response theory (IRT) b-values of the items in a test and an average biserial correlation. The mean b-value is an indicator of test difficulty, and the target standard deviation provides information about the spread of these item difficulties. The biserial correlation is a measure of how well the items discriminate among test takers and is related to the overall reliability of the test. These specifications were developed from the analyses of test forms administered in years 2001 to 2004. Table 2.1 presents the target statistical specifications for each test. The minimum target value for an item point-biserial was set at 0.14 for each test. This value approximates a biserial correlation of 0.20. The target b-value range approximates a minimum percent-correct value (p-value) of 0.20 and a maximum p-value of 0.95 for each test. Since the items included in the integrated tests are drawn from other tests, targets for their classical statistical characteristics were not defined separately.

Content Specifications

ETS developed all CST test items to conform to the SBE-approved content standards and test blueprints. The content blueprints for the CSTs can be found on the CDE Web site, at http://www.cde.ca.gov/ta/tg/sr/blueprints.asp. Although the test blueprints called for distributions of items at the individual standard level, for reporting purposes, the content for each CST was aggregated across standards into subcontent areas, referred to as "reporting clusters," for reporting purposes. For each CST reporting cluster, the percentage of questions correctly answered by students was reported. A description of the CST reporting clusters and the standards that comprise the reporting clusters is provided in Appendix 2.A on page 13.

[1] Target IRT assembly curves were constructed in June of 2004, however, Test Development staff were not sufficiently trained to take advantage of this method of assembly. To still make use us b-values in assembly a standard deviation for the b-values was derived from the target curve information.

Table 2.1: Statistical Specifications for CSTs

Subject	CST	Target Mean b	Target SD b	Mean p-value	Min p-value	Max p-value	Mean Biserial	Min Point Biserial
English-Language Arts	**2**	-0.15	0.69	0.58 – 0.62	0.20	0.95	> 0.37	0.14
	3	-0.34	0.74	0.58 – 0.62	0.20	0.95	> 0.37	0.14
	4	-0.01	0.68	0.56 – 0.60	0.20	0.95	> 0.37	0.14
	5	-0.16	0.82	0.55 – 0.60	0.20	0.95	> 0.37	0.14
	6	-0.05	0.76	0.55 – 0.60	0.20	0.95	> 0.37	0.14
	7	0.16	0.64	0.55 – 0.60	0.20	0.95	> 0.37	0.14
	8	-0.14	0.70	0.55 – 0.60	0.20	0.95	> 0.37	0.14
	9	-0.04	0.68	0.55 – 0.60	0.20	0.95	> 0.37	0.14
	10	-0.21	0.64	0.55 – 0.60	0.20	0.95	> 0.37	0.14
	11	-0.23	0.67	0.55 – 0.60	0.20	0.95	> 0.37	0.14
History-Social Science	**8**	0.18	0.53	0.48 – 0.53	0.20	0.95	0.30 – 0.35	0.14
	10	0.15	0.51	0.48 – 0.53	0.20	0.95	0.30 – 0.35	0.14
	11	0.09	0.59	0.48 – 0.53	0.20	0.95	0.30 – 0.35	0.14
Mathematics	**2**	-0.87	0.93	0.65 – 0.70	0.20	0.95	0.39 – 0.45	0.14
	3	-0.75	0.98	0.61 – 0.64	0.20	0.95	0.39 – 0.45	0.14
	4	-0.66	0.83	0.61 – 0.64	0.20	0.95	0.39 – 0.45	0.14
	5	-0.17	0.94	0.53 – 0.57	0.20	0.95	0.39 – 0.45	0.14
	6	-0.25	0.77	0.53 – 0.57	0.20	0.95	0.39 – 0.45	0.14
	7	-0.07	0.57	0.52 – 0.55	0.20	0.95	0.39 – 0.45	0.14
	General Math	0.10	0.79	0.50 – 0.53	0.20	0.95	0.36 – 0.40	0.14
	Algebra I	-0.07	0.71	0.50 – 0.53	0.20	0.95	0.31 – 0.35	0.14
	Geometry	-0.77	0.71	0.50 – 0.53	0.20	0.95	0.33 – 0.37	0.14
	Algebra II	-0.43	0.89	0.53 – 0.57	0.20	0.95	0.33 – 0.37	0.14
	High School Math	-0.83	0.63	0.59 – 0.63	0.20	0.95	0.36 – 0.39	0.14
	Integrated Math 1	0.25	0.72	N/A	N/A	N/A	N/A	N/A
	Integrated Math 2	0.08	0.75	N/A	N/A	N/A	N/A	N/A
	Integrated Math 3	-0.08	0.81	N/A	N/A	N/A	N/A	N/A
Science	**Grade 5 Science**	-0.19	0.56	0.52 – 0.55	0.20	0.95	> 0.34	0.14
	Biology	-0.22	0.61	0.52 – 0.55	0.20	0.95	> 0.34	0.14
	Chemistry	-0.11	0.53	0.52 – 0.55	0.20	0.95	> 0.34	0.14
	Earth Science	0.17	0.47	0.52 – 0.55	0.20	0.95	> 0.34	0.14
	Physics	-0.21	0.51	0.52 – 0.55	0.20	0.95	> 0.34	0.14

Note: The 2005 Integrated Science CSTs were assembled from items being administered in the 2006 Biology, Chemistry, Earth Science and Physics CSTs and were not assembled to statistical specifications.

Item Development

ETS has maintained item specifications for each CST. ETS followed the SBE-approved Item Utilization Plan to guide the development of the quantity of items for each subject area. Item specification documents included the constructs to be measured and the California content standards included in the test blueprints. The item specifications helped ensure that the CSTs consistently matched the content standards from year to year. Item writing emphasis was determined in consultation with the CDE. The item specifications also provided specific and important guidance to item writers, and ensured that items were consistent in approach and written to measure the standards. The item specifications described the general characteristics of the items for each content standard, indicated item types, or content to be avoided, and defined the content limits for the items. In summary, the specifications included the following:

- A statement of the strand or topic for the standard.
- A full statement of the academic content standard, as found in each CST's test blueprint.
- The expected cognitive level(s) of items written for the standard (low, medium, or high), as defined by ETS and approved by CDE.
- The construct(s) appropriately measured by the standard.
- A description of the kinds of stems appropriate for multiple-choice items for the standard.
- A description of the kinds of distractors appropriate for multiple-choice items for the standard.
- A description of specific kinds of items to be avoided, if any (e.g., no ELA items about insignificant details).
- A description of appropriate stimuli (e.g., charts, tables, graphs, or other artwork) for mathematics, science, and history-social science items.
- The content limits for the standard (e.g., one or two variables, maximum place values of numbers) for mathematics, science, and history-social science items.
- A description of appropriate reading passages (if applicable) for ELA items.

In addition, for ELA, the item specifications contained guidelines for passages used to assess reading comprehension and writing. These guidelines included the following:

- A list of topics to be avoided.
- The acceptable ranges for passage length.
- The expected distribution of passages by genre.
- Guidelines for readability and concept load, using CDE/ETS-agreed-to standards.
- Expected use of artwork.
- The target number of items attached to each reading passage and each writing passage.
- Writing passages for Grades 4 and 7 to have a readability level appropriate to their respective grades.

Item Review Process

The items selected for each CST undergo an extensive item review process that is designed to provide all California students with the best standards-based tests possible. This section summarizes the various reviews that ensured the validity of 2005 CST items and test forms.

Internal Reviews

After the items had been written, ETS employed a series of internal reviews. The reviews established the criteria used to judge the content validity of the item, making sure that each item was measuring what it was intended to measure. The internal reviews also examined the overall quality of the test items before they were prepared for presentation to CDE and the ARPs. Because of the complexities involved in producing defensible items for high-stakes programs such as the STAR Program, it is essential that many experienced individuals review each item before it is brought to CDE and the State ARP and SPAR panels.

The ETS review process for the CST included the following:

Internal content review
Internal editorial review
Internal sensitivity review

Throughout this multi-step item review process, the lead content area assessment specialists and development team members continually evaluated the relevance of the information being assessed, its relevance to the California content standards, its match to the test and item specifications, and its appropriateness to the population being assessed. Items that are only peripherally related to the test and item specifications, that do not measure core outcomes reflected in the California content standards, or that are not developmentally appropriate were eliminated early in this rigorous review process.

Test items and materials received two reviews by the content area assessment specialists. These assessment specialists made sure that the test items and related materials were in compliance with ETS' written guidelines for clarity, style, accuracy, and appropriateness for California students, and in compliance with the approved item specifications. Assessment specialists reviewed each item following the criteria below:

Relevance of each item as the item relates to the purpose of the test.

Match of each item to the item specifications, including cognitive level.

Match of each item to the principles of quality item development.

Match of each item to the identified standard (or standards, for history-social science).

Difficulty of the item.

Accuracy of the content of the item.

Readability of the item or passage.

Grade-level appropriateness of the item.

Appropriateness of any artwork, graphs, figures, etc.

The assessment specialists also checked all items against their classification codes, both to evaluate the correctness of the classification and to ensure that a given task is of a type appropriate to the outcome it was intended to measure. The reviewers accepted the item and classification as written, suggested revisions, or recommended that the item be discarded. These steps occurred prior to CDE review.

Internal Editorial Review

After the content area assessment specialists reviewed each item, a group of specially trained editors reviewed each item in preparation for review by CDE and the ARPs. The editors checked questions for clarity, correctness of language, appropriateness of language for the grade level assessed, adherence to the style guidelines, and conformity with accepted item writing practices.

Internal Sensitivity Review

ETS assessment specialists who are specially trained to identify and eliminate questions that contain content or wording that could be construed to be offensive to or biased against members of specific ethnic, racial, or gender groups, conducted the next level of review. These trained staff members reviewed every item before it was prepared for CDE and ARP review. In addition, the review process promoted a general awareness of and responsiveness to the following:

- Cultural diversity.
- Diversity of background, cultural tradition and viewpoints to be found in the test-taking populations.
- Changing roles and attitudes toward various groups.
- Role of language in setting and changing attitudes toward various groups.
- Contributions of diverse groups (including ethnic and minority groups, individuals with disabilities, and women) to the history and culture of the United States and the achievements of individuals within these groups.

Assessment Review Panels

ETS is responsible for working with ARPs as items are developed for the CSTs. The ARPs are advisory panels to CDE and ETS on areas related to the item development for the CSTs. The ARPs were responsible for reviewing all newly developed items for alignment to the California content standards. The ARPs also reviewed the items for accuracy of item content, clarity of phrasing, and item quality. ETS provided the ARPs with the opportunity to review the items with the applicable field-test statistics and to make recommendations for the use of items in subsequent test forms. The ARPs may raise in their examination of test items concerns related to age/grade appropriateness, gender, racial/ethnic, and socioeconomic bias.

ARP Meetings for Review of CST Items

The content area assessment specialists facilitated the CST ARP meetings. Each meeting began with a brief training session on how to review items. ETS provided this training, which consisted of the following steps:

- An overview of the purpose and scope of the CST.
- An overview of the CST test design specifications and blueprints.
- An analysis of the CST item specifications.
- An overview of criteria for evaluating multiple-choice test items and for reviewing constructed-response writing tasks.
- Review and evaluation of items for bias and sensitivity issues.

The criteria for evaluating multiple-choice items and constructed-response writing tasks included:

- overall technical quality
- match to the California content standards
- match to the construct being assessed by the standard
- difficulty range
- clarity
- correctness of the answer
- plausibility of the distracters
- bias and sensitivity factors

Criteria also include more global issues, including — for English-language arts (ELA) — the appropriateness of reading passages, passage difficulty, and readability. The committee was also trained on how to make recommendations for revising items. Guidelines for reviewing items were provided by ETS and approved by CDE. The guidelines for reviewing items are summarized below:

Does the item…

- Have one and only one clearly correct answer?
- Measure the content standard?
- Match the test item specifications?
- Align with the construct being measured?
- Test worthwhile concepts or information?
- Reflect good and current teaching practices?
- Have a stem that gives the student a full sense of what the item is asking?
- Avoid unnecessary wordiness?
- Use response options that relate to the stem in the same way?
- Use response options that are plausible and have reasonable misconceptions and errors?
- Avoid having one response option that is markedly different from the others?
- Avoid clues to students, such as absolutes or words repeated in both the stem and options?
- Reflect content that is free from bias against any person or group?

Is the stimulus (if any) for the item…

- Required in order to answer the item?
- Likely to be interesting to students?
- Clearly and correctly labeled?
- Providing all the information needed to answer the item?

As the first step of the item review process, panel members reviewed a set of items independently. As panel members individually reviewed items, they recorded their comments. The next step in the review process was for the group to discuss each item. The content area assessment specialists facilitated the discussion and recorded all recommendations. These recommendations were recorded in a master item review booklet.

Item review binders and other item evaluation materials also identified potential bias and sensitivity factors the ARP is to consider as part of its item reviews.

Some ARPs further divided into smaller groups, depending upon CDE approval and the numbers of items still to be reviewed. The Science ARP, for example, divided into content area and grade-level groups. The content area assessment specialists facilitated the smaller groups as well.

ETS staff maintained the minutes summarizing the review process and then forwarded copies of the minutes to the CDE, emphasizing in particular the recommendations of the panel members.

SPAR Review Panel

The Statewide Pupil Assessment Review (SPAR) Panel is responsible for reviewing and approving a single achievement test to be used statewide for the testing of students in California public schools, grades 2–11. At the SPAR panel meetings, all new items were presented in binders for review. The

SPAR panel representatives ensured that the test items conformed to the requirements of *Education Code* Section 60614. The constructed-response writing tasks were also prepared for review. If specific items and/or constructed-response writing tasks were rejected by the SPAR panel, the items and/or tasks were replaced. For the SPAR panel meeting, the item development coordinator, or an ETS content specialist requested in advance by CDE attended the opening session and remained in a nearby location or near a telephone to be available to respond to any questions during the course of the meeting.

Technical Characteristics of the Assembled Tests

Technical characteristics of the assembled tests were estimated using Gulliksen's (1987) formula for estimating test reliability from item p-values and item point-biserial correlations:

$$r_{xx} = \left(\frac{K}{K-1}\right)\left(1 - \frac{\sum_{g=1}^{K} s_g^{\,2}}{\left(\sum_{g=1}^{K} r_{xg} s_g\right)^2}\right), \qquad (2.1)$$

where,

K is the number of items in the test,

s_g^2 is the estimated item variances, $p_g(1 - p_g)$, where p_g is the item p-value for item g,

r_{xg} is the item point-biserial correlation for item g, and

$r_{xg}\, s_g$ is the item reliability index.

In addition, estimated test means were calculated by summing the item p-values and estimated standard deviations were calculated by summing the item reliability indices. Table 2.B.1 on page 22 presents these summary values by subject area and grade.

In general, the projected reliabilities of the CSTs were at or above the levels considered acceptable for such tests, ranging from 0.86 to 0.94. These values were also consistent with reliability for the CSTs in past several years. The English-language arts tests had the highest reliabilities, ranging from 0.92 to 0.94 across all grades. These were very similar to values projected for 2004 and slightly higher than values projected for 2003.

Consistent with the results obtained on the 2004 administration, the projected reliabilities for the history-social science and science CSTs for the current administration were slightly higher.

It should be noted that the projected reliabilities in Table 2.B.1 were based on item p-values and point-biserial correlations that for some of the items were based on external field-testing using samples of students that were not fully representative of the State. Chapters 7 and 8 present item p-values, point-biserial correlations, and test reliability estimates based on the data from the 2005 CST administration.

Table 2.B.2 on page 23 shows the relationship between the assembly targets, projected statistics (based on field testing), and observed statistics (based on the 2005 operational administration) for each of the CSTs that were not built from other test components. Comparisons were made in terms of mean b-value, the spread of the b-values, and the average discrimination (point-biserial correlations) of the items in the tests. In 2005 some forms (i.e. the Integrated forms) included items for which b-values were not available. In these cases the projected IRT statistics were based on a subset of the items in the test. The mean observed b-values were very close to the target values. The largest differences were

observed for ELA grade 10 and Math grades 3 and 5. This suggests that the average difficulty of the test forms was in line with target specifications. The spread of item difficulties was largely in line with specifications; however, in some cases the observed spread was less than the target spread. Tests with less spread of item difficulties included the CSTs for ELA grades 6 and 11, the Grade 5 Math CST, the Algebra II CST, the Grade 5 Science CST, and the Biology CST. The observed point-biserial correlation exceeded the target in all cases.

Item Development for 2006

ETS is currently following the SBE-approved Item Utilization Plan, as modified in 2005 under the Scenario 2 budget adjustment, to guide the development of the quantity of items for each subject area. Most of the specifications were similar to last year's item development specifications. However, ETS is revising the specifications for the grades 4 and 7 Writing CSTs based on SBE-approved recommendations from the 2004 Writing Task Force. New prompts have been developed based on these specifications and presented to the CST ELA ARP for review. Task Force recommendations regarding a planning page, number of lined response pages, and other structural issues will be evaluated by means of in-classroom pilot tests that have already been conducted in April 2005.

Item writer training was conducted in San Francisco in April 2005. There were 103 participants for the two-day session, almost evenly distributed across the four CST content areas. ETS test development specialists trained attendees in the basics of item writing. They also reviewed items that participants created during the training, offering feedback in both group and individual settings.

The development of new items during this cycle was limited to a level that would allow for replacement of items no longer available for use on operational forms, due to item release and other reasons. Thus the item writers used were the most experienced in writing to those standards assessed on the CSTs. All item writers met the following minimum qualifications:

- Bachelor's degree in a relevant content area, or in education when the degree includes a substantial content focus. An advanced degree in a relevant content area is desirable.
- Previous experience in writing items for standards-based assessments, including knowledge of the many considerations that are important when developing items to match State-specific standards
- Previous experience in writing items in the content areas covered by CST grades and/or courses
- Familiarity, understanding, and support of the California content standards
- Current or previous teaching experience in California, where possible

References

Gulliksen, H. *Theory of Mental Tests*. Hillsdale, NJ: Erlbaum, 1987.

Appendix 2.A — Reporting Clusters

English-Language Arts

Grade 2 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	22 items
Reading Comprehension	15 items
Literary Response and Analysis	6 items
Writing	
Writing Strategies	8 items
Written and Oral Language Conventions	14 items

Grade 3 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	20 items
Reading Comprehension	15 items
Literary Response and Analysis	8 items
Writing	
Writing Strategies	9 items
Written and Oral Language Conventions	13 items

Grade 4 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	18 items
Reading Comprehension	15 items
Literary Response and Analysis	9 items
Writing	
Writing Strategies	15 items
Written and Oral Language Conventions	18 items
Writing Applications	8 points (1 task)

Grade 5 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	14 items
Reading Comprehension	16 items
Literary Response and Analysis	12 items
Writing	
Writing Strategies	16 items
Written and Oral Language Conventions	17 items

Grade 6 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	13 items
Reading Comprehension	17 items
Literary Response and Analysis	12 items

Writing	
Writing Strategies	17 items
Written and Oral Language Conventions	16 items

Grade 7 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	11 items
Reading Comprehension	18 items
Literary Response and Analysis	13 items
Writing	
Writing Strategies	17 items
Written and Oral Language Conventions	16 items
Writing Applications	8 points (1 task)

Grade 8 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	9 items
Reading Comprehension	18 items
Literary Response and Analysis	15 items
Writing	
Writing Strategies	17 items
Written and Oral Language Conventions	16 items

Grade 9 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	8 items
Reading Comprehension	18 items
Literary Response and Analysis	16 items
Writing	
Writing Strategies	20 items
Written and Oral Language Conventions	13 items

Grade 10 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	8 items
Reading Comprehension	18 items
Literary Response and Analysis	16 items
Writing	
Writing Strategies	20 items
Written and Oral Language Conventions	13 items

Grade 11 English-Language Arts Standards Test

Reading	
Word Analysis and Vocabulary	8 items
Reading Comprehension	19 items
Literary Response and Analysis	17 items
Writing	
Writing Strategies	22 items
Written and Oral Language Conventions	9 items

History-Social Science

Grade 8 History-Social Science Standards Test

€ *World History and Geography: Ancient Civilizations* 16 items
(Grade 6 Standards)

€ *World History and Geography: Medieval and Early Modern Times*
(Grade 7 Standards)

Late Antiquity and the Middle Ages	14 items
Renaissance/Reformation	10 items

€ *United States History and Geography: Growth and Conflict*
(Grade 8 Standards)

U.S. Constitution and the Early Republic	22 items
Civil War and its Aftermath	13 items

Grade 10 History-Social Science Standards Test

€ *Development of Modern Political Thought* 13 items
(Standards: 1–2)

€ *Industrial Expansion and Imperialism* 10 items
(Standards: 3–4)

€ *Causes and Effects of the First World War* 14 items
(Standards: 5–6)

€ *Causes and Effects of the Second World War* 13 items
(Standards: 7–8)

€ *International Developments in the Post-World War II Era* 10 items
(Standards: 9–10)

Grade 11 History-Social Science Standards Test

€ *Foundations of American Political and Social Thought* 10 items
(Standards: 1 and 3)

€ *Industrialization and the U.S. Role as a World Power* 13 items
(Standards: 2 and 4)

United States Between the World Wars 12 items
(Standards: 5–6)

World War II and Foreign Affairs 12 items
(Standards: 7 and 9)

Post-World War II Domestic Issues 13 items
(Standards: 8, 10, and 11)

Mathematics

Grade 2 Mathematics Standards Test

Number Sense

Place value, addition, and subtraction	15 items
Multiplication, division, and fractions	23 items

Algebra and Functions 6 items

Measurement and Geometry	14 items
Statistics, Data Analysis, and Probability	7 items

Grade 3 Mathematics Standards Test

Number Sense	
Place value, fractions, and decimals	16 items
Addition, subtraction, multiplication, and division	16 items
Algebra and Functions	12 items
Measurement and Geometry	16 items
Statistics, Data Analysis, and Probability	5 items

Grade 4 Mathematics Standards Test

Number Sense	
Decimals, fractions, and negative numbers	16 items
Operations and factoring	15 items
Algebra and Functions	18 items
Measurement and Geometry	12 items
Statistics, Data Analysis, and Probability	4 items

Grade 5 Mathematics Standards Test

Number Sense	
Estimation, percents, and factoring	12 items
Operations with fractions and decimals	17 items
Algebra and Functions	17 items
Measurement and Geometry	15 items
Statistics, Data Analysis, and Probability	4 items

Grade 6 Mathematics Standards Test

Number Sense	
Ratios, proportions, percentages, and negative fractions	15 items
Operations and problem-solving with fractions	10 items
Algebra and Functions	19 items
Measurement and Geometry	10 items
Statistics, Data Analysis, and Probability	11 items

Grade 7 Mathematics Standards Test

Number Sense	
Rational numbers	14 items
Exponents, powers, and roots	8 items
Algebra and Function	
Quantitative relationships and evaluating expressions	10 items
Multi-step problems, graphing, and functions	15 items
Measurement and Geometry	13 items
Statistics, Data Analysis, and Probability	5 items

Grade 8/9 General Mathematics Standards Test

- *Number Sense*
  - Rational numbers — 14 items
  - Exponents, powers, and roots — 10 items
- *Algebra and Functions*
  - Quantitative relationships and evaluating expressions — 11 items
  - Multi-step problems, graphing, and functions — 10 items
- *Measurement and Geometry* — 11 items
- *Statistics, Data Analysis, and Probability* — 9 items

Algebra I Standards Test

- *Number Properties, Operations, and Linear Equations* — 17 items
  (Standards: 1.0–5.0)
- *Graphing and Systems of Linear Equations* — 14 items
  (Standards: 6.0–9.0)
- *Quadratics and Polynomials* — 21 items
  (Standards: 10.0, 11.0, 14.0, and 19.0–23.0)
- *Functions and Rational Expressions* — 13 items
  (Standards: 12.0, 13.0, and 15.0–18.0)

(Note: Standards 24.0–25.3 are embedded within the 65 items)

Geometry Standards Test

- *Logic and Geometric Proofs* — 23 items
  (Standards: 1.0–7.0)
- *Volume and Area Formulas* — 11 items
  (Standards: 8.0–11.0)
- *Angle Relationships, Constructions, and Lines* — 15 items
  (Standards: 12.0–17.0)
- *Trigonometry* — 15 items
  (Standards: 18.0–22.0)

Algebra II Standards Test

- *Polynomials and Rational Expressions* — 19 items
  (Standards: 1.0–4.0 and 7.0)
- *Quadratics, Conics, and Complex Numbers* — 16 items
  (Standards: 5.0, 6.0, 8.0–10.0, 16.0, and 17.0)
- *Exponents and Logarithms* — 15 items
  (Standards: 11.0–15.0)
- *Series, Combinatorics, and Probability and Statistics* — 14 items
  (Algebra II Standards 18.0–25.0 and Probability and Statistics 2.0 and 7.0)

Summative High School Mathematics Standards Test

- *Algebra I* — 18 items
- *Geometry* — 19 items

Algebra II	23 items
Probability and Statistics	5 items

Integrated Mathematics 1 Standards Test

Algebra I	
Number properties, operations, and linear equations	15 items
Graphing	9 items
Quadratics and polynomials	14 items
Functions and rational expressions	7 items
Geometry	19 items

Integrated Mathematics 2 Standards Test

Algebra I	20 items
Geometry	
Logic and geometric proofs	22 items
Angle relationships, constructions, and lines	8 items
Trigonometry	10 items
Algebra II/Probability and Statistics	4 items

Integrated Mathematics 3 Standards Test

Geometry	5 items
Algebra II	
Polynomials and rational expressions	19 items
Quadratics, conics, and complex numbers	16 items
Exponents and logarithms	15 items
Series, combinatorics, and probability and statistics	10 items

Science

Grade 5 Science Standards Test

Physical Science (Grade 5)	11 items
Physical Science (Grade 4)	8 items
Life Science (Grade 5)	13 items
Life Science (Grade 4)	9 items
Earth Science (Grade 5)	11 items
Earth Science (Grade 4)	8 items

Biology Standards Test

Investigation and Experimentation Investigation and experimentation (Standards: 1 a–n)	6 items
Cell Biology Cell biology (Standards: 1 a–h)	9 items
Genetics Genetics (Standards: 2 a–g, 3 a–b, 4 a–e, 5 a–c)	18 items

Ecology and Evolution 16 items
Ecology (Standards: 6 a–f)
Evolution (Standards: 7 a–d, 8 a–e)

Physiology 11 items
Physiology (Standards: 9 a–e, 10 a–e)

Chemistry Standards Test

Investigation and Experimentation 6 items
Investigation and experimentation (Standards: 1 a–n)

Atomic and Molecular Structure 8 items
Atomic and molecular structure (Standards: 1 a–e)
Nuclear processes (Standards: 11 a–e)

Chemical Bonds, Biochemistry 9 items
Chemical bonds (Standards: 2 a–e)
Organic and biochemistry (Standards: 10 a–c)

Kinetics, Thermodynamics 14 items
Gases and their properties (Standards: 4 a–f)
Chemical thermodynamics (Standards: 7 a–d)
Solutions (Standards: 6 a–d)

Chemical Reactions 13 items
Acids and bases (Standards: 5 a–d)
Reaction rates (Standards: 8 a–c)
Chemical equilibrium (Standards: 9 a–b)

Conservation of Matter and Stoichiometry 10 items
Conservation of matter and stoichiometry (Standards: 3 a–e)

Earth Science Standards Test

€ *Investigation and Experimentation* 6 items
Investigation and experimentation (Standards: 1 a–n)

€ *Astronomy and Cosmology* 12 items
Earth's place in the universe (Standards: 1 a–f, 2 a–d)

€ *Solid Earth* 14 items
Dynamic earth processes (Standards: 3 a–e)
California geology (Standards: 9 a–c)

€ *The Earth's Energy* 28 items
Energy in the Earth system (Standards: 4 a–c, 5 a–e, 6 a–c)
Structure and composition of the atmosphere (Standards: 8 a–c)
Biogeochemical cycles (Standards: 7 a-c)

Physics Standards Test

€ *Investigation and Experimentation* 6 items
Investigation and experimentation (Standards: 1 a–n)

€ *Motion and Forces* 12 items
Motions and forces (Standards: 1 a–g)

€ *Conservation of Energy and Momentum* 12 items
Conservation of energy and momentum (Standards: 2 a–g)

Heat and Thermodynamics 9 items
Heat and thermodynamics (Standards: 3 a–e)

Waves 10 items
Waves (Standards: 4 a–f)

Electric and Magnetic Phenomena 11 items
Electric and magnetic phenomena (Standards: 5 a–i)

Integrated Science 1 Standards Test

Investigation and Experimentation 6 items
Investigation and experimentation (Standards: 1 a–n)

Biology/Life Sciences 10 items
Ecology (Standards: 6 a–f)
Evolution (Standards: 8 a–b, e)

Chemistry 15 items
Atomic and Molecular structure (Standards: 1 a–e)
Chemical bonds (Standards: 2 a–c)
Acids and bases (Standards: 5 a, c)
Chemical thermodynamics (Standards: 7 b–c)

Earth Sciences 17 items
Dynamic earth processes (Standards: 3 a–e)
Biogeochemical cycles (Standards: 7 a–c)
California geology (Standards: 9 b–c)

Physics 12 items
Waves (Standards: 4 a–b, d–f)
Electric and magnetic phenomena (Standards: 5 d–e, h–i)

Integrated Science 2 Standards Test

Investigation and Experimentation 6 items
Investigation and experimentation (Standards: 1 a–n)

Biology/Life Sciences 15 items
Cell biology (Standards: 1 a, c–e, h)
Genetics (Standards: 2 a–c, e–g, 3 a-b, 4 a–b)

Chemistry 6 items
Conservation of matter and stoichiometry (Standards: 3 a)
Solutions (Standards: 6 a–c)
Organic and biochemistry (Standards: 10 a–c)

Earth Sciences 15 items
Earth's place in the universe (Standards: 1 a, c, f)
Energy in the Earth system (Standards: 4 b, 5 a–c, e, 6 a–c)

Physics 18 items
Motions and forces (Standards: 1 a–f)
Conservation of energy and momentum (Standards: 2 a–d)

Integrated Science 3 Standards Test

Investigation and Experimentation 6 items
Investigation and experimentation (Standards: 1 a–n)

- *Biology/Life Sciences* — 16 items
  - Cell biology (Standards: 1 b, f, g)
  - Genetics (Standards: 2 d, 4 c–e, 5 c)
  - Evolution (Standards: 7 a–d, 8 c–d)
- *Chemistry* — 23 items
  - Conservation of matter and stoichiometry (Standards: 3 b–e)
  - Gases and their properties (Standards: 4 a–f)
  - Solutions (Standards: 6 d)
  - Reaction rates (Standards: 8 a–c)
  - Chemical equilibrium (Standards: 9 a–b)
- *Earth Sciences* — 7 items
  - Energy in the Earth system (Standards: 4 c)
  - Structure and composition of the atmosphere (Standards: 8 a–c)
- *Physics* — 8 items
  - Motions and forces (Standards: 1 g)
  - Conservation of energy and momentum (Standards: 2 e–g)
  - Electric and magnetic phenomena (Standards: 5 f–g)

Integrated Science 4 Standards Test

- *Investigation and Experimentation* — 6 items
  - Investigation and experimentation (Standards: 1 a–n)
- *Biology/Life Sciences* — 13 items
  - Genetics (Standards: 5 a–b)
  - Physiology (Standards: 9 a–e, 10 a–e)
- *Chemistry* — 10 items
  - Chemical bonds (Standards: 2 d–e)
  - Acids and bases (Standards: 5 b, d)
  - Chemical thermodynamics (Standards: 7 a–d)
  - Nuclear processes (Standards: 11 a–e)
- *Earth Sciences* — 15 items
  - Earth's place in the universe (Standards: 1 b, d–e, 2 a–d)
  - Energy in the Earth system (Standards: 4 a, 5 d)
  - California geology (Standards: 9 a)
- *Physics* — 16 items
  - Heat and thermodynamics (Standards: 3 a–e)
  - Waves (Standards: 4 c)
  - Electric and magnetic phenomena (Standards: 5 a–c)

Appendix 2.B — Characteristics Tables

Table 2.B.1: Summary of 2005 CST Projected Technical Characteristics

Subject	CST	Number of Items*	Mean Raw Score	Standard Deviation of Raw Scores	Mean p-value	Reliability
English-Language Arts	**2**	65	38.48	13.85	0.59	0.94
	3	65	38.73	12.60	0.60	0.92
	4	75	43.19	15.18	0.58	0.94
	5	75	44.16	14.67	0.59	0.94
	6	75	43.27	14.40	0.58	0.93
	7	75	42.71	14.30	0.57	0.93
	8	75	41.84	13.64	0.56	0.92
	9	75	42.56	14.71	0.57	0.93
	10	75	44.11	15.54	0.59	0.94
	11	75	42.38	15.12	0.57	0.94
History-Social Science	**8**	75	35.57	12.48	0.47	0.90
	10	60	29.89	10.94	0.50	0.90
	11	60	29.89	10.98	0.50	0.90
Mathematics	**2**	65	47.10	11.66	0.72	0.93
	3	65	45.34	11.96	0.70	0.93
	4	65	43.17	12.89	0.66	0.94
	5	65	37.84	13.06	0.58	0.93
	6	65	37.54	12.94	0.58	0.93
	7	65	34.90	12.59	0.54	0.92
	General Mathematics	65	32.69	11.55	0.50	0.90
	Algebra I	65	31.88	11.36	0.49	0.90
	Geometry	64	42.37	10.72	0.66	0.90
	Algebra II	64	35.98	10.56	0.56	0.88
	High School Mathematics	65	41.65	11.13	0.64	0.91
	Integrated Math 1	64	35.90	11.66	0.56	0.91
	Integrated Math 2	64	36.74	10.25	0.57	0.88
	Integrated Math 3	65	37.59	10.72	0.58	0.89
Science	**Science Grade 5**	60	29.35	9.66	0.49	0.86
	Biology	60	31.70	10.67	0.53	0.89
	Chemistry	60	32.68	10.37	0.54	0.88
	Earth Sciences	60	28.62	10.65	0.48	0.89
	Physics	60	31.86	11.29	0.53	0.90
	Integrated Science 1	60	31.14	10.69	0.52	0.89
	Integrated Science 2	60	30.85	10.42	0.51	0.88
	Integrated Science 3	60	30.32	10.36	0.51	0.88
	Integrated Science 4	60	32.55	11.52	0.54	0.91

* For English-Language Arts Grades 4 and 7, the Number of Items listed does not include the essay. For Geometry, Algebra II, Integrated Mathematics 1, and Integrated Mathematics 2, the number of items listed reflects a decision made after test assembly to remove an item from scoring.

Table 2.B.2: Comparison of Target Statistical Specifications, Projected Statistics, and Observed Statistics for the CSTs

		B-value mean			B-value standard deviation			Point biserial mean		
Subject	**CST**	**Target**	**Projected**	**Observed**	**Target**	**Projected**	**Observed**	**Target**	**Projected**	**Observed**
English-Language Arts	**2**	-0.15	-0.14	-0.20	0.69	0.68	0.68	> 0.37	0.45	0.46
	3	-0.34	-0.28	-0.34	0.74	0.77	0.74	> 0.37	0.42	0.43
	4*	-0.01	0.01	0.03	0.68	0.70	0.76	> 0.37	0.43	0.43
	5*	-0.16	-0.10	-0.20	0.82	0.82	0.86	> 0.37	0.42	0.43
	6*	-0.05	-0.02	-0.12	0.76	0.67	0.67	> 0.37	0.40	0.42
	7*	0.16	0.20	0.19	0.64	0.60	0.66	> 0.37	0.40	0.41
	8*	-0.14	-0.09	-0.09	0.70	0.66	0.66	> 0.37	0.38	0.40
	9*	-0.04	-0.02	-0.03	0.68	0.66	0.69	> 0.37	0.41	0.42
	10*	-0.21	-0.20	-0.34	0.64	0.57	0.61	> 0.37	0.43	0.44
	11*	-0.23	-0.16	-0.22	0.67	0.54	0.61	> 0.37	0.42	0.43
History-Social Science	**8***	0.18	0.21	0.23	0.53	0.61	0.62	0.30 – 0.35	0.34	0.37
	10*	0.15	0.13	0.09	0.51	0.56	0.58	0.30 – 0.35	0.37	0.39
	11	0.09	0.10	0.08	0.59	0.54	0.59	0.30 – 0.35	0.38	0.40
Mathematics	**2***	-0.87	-0.92	-0.88	0.93	0.90	0.91	0.39 – 0.45	0.42	0.44
	3*	-0.75	-0.74	-0.67	0.98	0.91	0.95	0.39 – 0.45	0.42	0.44
	4*	-0.66	-0.65	-0.69	0.83	0.77	0.84	0.39 – 0.45	0.44	0.47
	5	-0.17	-0.19	-0.26	0.94	0.80	0.81	0.39 – 0.45	0.42	0.46
	6*	-0.25	-0.25	-0.35	0.77	0.66	0.66	0.39 – 0.45	0.42	0.44
	7*	-0.07	-0.05	-0.04	0.57	0.66	0.68	0.39 – 0.45	0.41	0.42
	General Mathematics* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Algebra I*	-0.07	-0.07	0.05	0.71	0.60	0.75	0.31 – 0.35	0.36	0.38
	Geometry**	-0.77	-0.79	-0.80	0.71	0.66	0.69	0.33 – 0.37	0.37	0.40
	Algebra II*/**	-0.43	-0.40	-0.44	0.89	0.76	0.80	0.33 – 0.37	0.35	0.37
	High School Mathematics* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Math 1* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Math 2* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Math 3* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Science	**Grade 5 Science**	-0.19	-0.20	-0.23	0.56	0.48	0.47	> 0.34	0.33	0.36
	Biology	-0.22	-0.18	-0.16	0.61	0.48	0.47	> 0.34	0.36	0.38
	Chemistry	-0.11	-0.12	-0.14	0.53	0.54	0.54	> 0.34	0.36	0.37
	Earth Science*	0.17	0.19	0.20	0.47	0.42	0.46	> 0.34	0.38	0.38
	Physics	-0.21	-0.19	-0.18	0.51	0.47	0.56	> 0.34	0.38	0.40
	Integrated Science 1* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Science 2* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Science 3* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Science 4* **	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* For these tests, not all test items have pretest b-values. The number of items missing b-values for these tests range from 1 to 13. For these tests, the projected mean and standard deviation of b-values are based only on the subset of test items which have pretest b-values.

** Each of these tests has a flawed item which was not scored. The projected and the observed statistics are computed excluding the flawed item.

*** General Mathematics, Summative High School Mathematics, Integrated Mathematics 1, 2, and 3, and Integrated Science 1, 2, 3 and 4 are not included in the table as these tests are constructed using the items from other CST operational tests.

Chapter 3: CST Equating Procedures

When test forms are created, two primary criteria must be simultaneously satisfied. The first is content-based: Test items must be distributed according to content specifications. The second is statistical: The items must have a specified distribution of difficulty or specified average difficulty and a specified average discrimination (correlation between the item score and the test score). These criteria help assure that all forms of a test are parallel (equally reliable and measure the same construct). However, despite the efforts taken when a test is constructed, forms of a test will still differ in difficulty to a small degree. The equating process is used to adjust for these small differences in difficulty so that test-takers can be fairly compared, regardless of the test form they took.

Test Construction and Review

CSTs are assembled to content and statistical specifications. For the 2005 tests, target means and standard deviations for the item difficulties (b-values) were specified to which test developers assembled forms (see Chapter 2 on page 4 for the relationship between the target and assembled forms). Each form contained some items that were the same as items used in the previous year; these items are called linking or equating items. The statistics for the linking items were obtained from the previous year's operational administration. Non-linking item statistics were generally based on item statistics based on field-test samples.

Post-administration Operational Equating

The CSTs were equated to a reference form using a common item equating design and methods based on item response theory. The "base" or "reference" calibrations for the CSTs were established by calibrating samples of data from the 2002 administration. This established a scale to which subsequent item calibrations could be linked. The 2005 items were placed on scale through a set of linking items from the 2004 forms. Tables 3.A.1 to 3.A.13 in Appendix 3.A[2] on page 35 reproduce these conversions for the various tests.

The procedures used for equating the CSTs involved three steps: item calibration, item parameter scaling, and true score equating. ETS utilizes a computer system called GENASYS for the IRT item calibration and equating work. As part of this system, a proprietary version of the PARSCALE computer program (Muraki and Bock, 1995) was used and parameterized to result in one-parameter calibrations. Research at ETS has suggested that PARSCALE calibrations done in this manner produce results that are virtually identical to results based on WINSTEPS (Way, Kubiak, Henderson, and Julian, 2002). The procedures described below were applied to all CSTs except the four Integrated Science CSTs. Special scaling procedures used for these CSTs will be described later in this section.

Calibration

For the item calibrations, the PARSCALE program was constrained by setting a common discrimination value for all items equal to 1.0 / 1.7 (or 0.588) and by setting the lower asymptote for all multiple-choice items to zero. The resulting estimation is equivalent to the Rasch model for multiple-choice items and the Rasch partial credit model for polytomously scored items (in grades 4 and 7 English-language arts). This is in keeping with previous CST equating and scaling procedures carried

[2] These are the reference form conversions used in equating. For new tests, the conversions use four decimal places. However, the conversions for older tests may have fewer decimal places as they were inherited from previous vendors.

out using the WINSTEPS program (Linacre, 2000). For the purposes of score equating, only the operational items are calibrated for each test.

The PARSCALE calibrations are run in two stages, following procedures used with other ETS testing programs. In the first stage, estimation imposed normal constraints on the updated prior ability distribution. The estimates resulting from this first stage are used as starting values for a second PARSCALE run, in which the subject prior distribution is updated after each EM cycle with no constraints. For both stages, the metric of the scale is controlled by the constant discrimination parameters.

Scaling

Calibrations of the 2005 forms were scaled to the previously obtained reference scale estimates using the Stocking and Lord (1983) procedure. In the case of one-parameter model calibrations, this procedure is equivalent to setting the mean of the new item parameter estimates for the common items equal to the mean of the previously scaled estimates. As commonly done in this approach, the linking process was carried out iteratively by inspecting differences between the transformed new and old (reference) estimates for the linking items, and removing items for which the item difficulty estimates changed significantly. Items with large weighted root-mean-square differences (WRMSD) between item characteristic curves (ICCs) based on the old and new difficulty estimates were eliminated. The differences were calculated using the following formula:

$$\mathrm{WRMSD} = \sqrt{\sum_{j=1}^{61} w_j \left[P_n\left(\theta_j\right) - P_r\left(\theta_j\right)\right]^2} \quad , \qquad (3.1)$$

where,

θ_j ranges from -3.0 to 3.0 by 0.1,

w_j is a weight equal to the proportion of estimated abilities from the transformed new form in interval j,

$P_n(\theta_j)$ is the probability of correct response for the transformed new form item at ability level j, and

$P_r(\theta_j)$ is the probability of correct response for the old (reference) form item.

Based on established procedures, any linking items for which the WRMSD was greater than 0.125 were eliminated. This criterion has produced reasonable results over time in similar equating work done with other testing programs at ETS.

In the construction of the 2005 math CSTs, it was determined to be desirable from a content perspective to group items measuring like content. Thus, the linking items appeared in different positions in the pre-2005 and 2005 forms of the math CSTs. Item position can affect item difficulty. Therefore, the relationship between changes in position and changes in item difficulty were examined carefully. It was determined that the changes in item position had minimal effect on the item scaling for these CSTs. To be particularly cautious about any potential position effects, the average change in position was examined for all CSTs. When the average position change departed from zero, the items with the most extreme position changes were iteratively dropped from the equating analyses until the average position change approximated zero. This review procedure resulted in few items being removed from the equatings.

Table 3.1 presents, for each CST content area and grade level, the number of common items between the 2005 (new) and reference test forms, the numbers of items removed from the common item sets,

the correlation between the final set of new and reference difficulty estimates for the linking items, and the average WRMSD statistic (see equation 3.1) across the final set of common items.

The results indicate that the new and old difficulty estimates were highly correlated (usually 0.94 or higher) and similar in magnitude (average WRMSD values of 0.05 and lower).

Table 3.1: Evaluation of Common Items between New and Reference Test Forms

Subject	CST	# of Linking Items	Linking Items Removed	Final Correlation	WRMSD
English-Language Arts	**2**	33		0.98	0.03
	3	28		0.99	0.02
	4	37		0.99	0.02
	5	28		0.97	0.03
	6	29		0.99	0.02
	7	31		0.98	0.03
	8	37		0.99	0.02
	9	37		0.98	0.03
	10	38		0.98	0.03
	11	33		0.98	0.02
History-Social Science	**8**	38		0.97	0.03
	10	30		0.98	0.02
	11	28		0.98	0.03
Mathematics	**2**	31	5	0.98	0.03
	3	31		0.92	0.05
	4	29	3	0.96	0.04
	5	33	2	0.97	0.04
	6	32	6	0.98	0.03
	7	32		0.96	0.04
	General Mathematics	31	2	0.95	0.05
	Algebra I	31	1	0.98	0.03
	Geometry	28		0.95	0.03
	Algebra II	28	1	0.98	0.03
	High School Mathematics	31	1	0.97	0.03
	Integrated Mathematics 1	31	6	0.94	0.04
	Integrated Mathematics 2	25	6	0.95	0.04
	Integrated Mathematics 3	30	6	0.95	0.05
Science	**Grade 5**	29		0.99	0.02
	Biology	28		0.97	0.02
	Chemistry	31		0.97	0.02
	Earth Sciences	29		0.93	0.03
	Physics	31		0.92	0.04
	Integrated Science 1	N/A	N/A	N/A	N/A
	Integrated Science 2	N/A	N/A	N/A	N/A
	Integrated Science 3	N/A	N/A	N/A	N/A
	Integrated Science 4	N/A	N/A	N/A	N/A

True score equating

Once the new item calibrations for each test are transformed to the base scale, defined by the reference calibrations, IRT true score equating procedures are used to transform the new form number-correct

scores to their respective reference form scale. These converted raw scores can then be transformed to scale scores through table lookup and linear interpolation. The reference conversions for the 2005 forms were taken from either the 2002, 2003, or 2004 forms[3] (see Table 3.2 for specifics).

The true score equating procedure is based on the relationship between raw scores and ability (theta). For CSTs consisting entirely of multiple-choice items, this is the well-known relationship defined in Lord (1980; equations 4–5):

$$.(.) = \sum_{i=1}^{n} P_i(.), \qquad (3.2)$$

where,

$P_i(\theta)$ is the probability of a correct response to item *i* at ability level θ (defined by the Rasch model),

$\xi(\theta)$ is the corresponding true score, and

the summation is over the *n* items in the test.

For grades 4 and 7 ELA, $\xi(\theta)$ is based on a weighted sum of multiple-choice and constructed response items, and the relationship can be defined as:

$$.(.) = w_{mc} \sum_{i=1}^{nmc} P_i(.) + w_{cr} \sum_{j=1}^{ncr} \sum_{x=1}^{m} s_x P_{xj}(.), \qquad (3.3)$$

where,

w_{mc} and w_{cr} are equal to 1,

s_x is the score value for category x,

nmc is the number of multiple-choice items in the test,

ncr is the number of constructed response items in the test,

m is the number of score categories in each polytomous item, and

$P_{xj}(\theta)$ is the probability of a score in category x at ability θ (defined by the Rasch partial credit model).

For ELA, there are eight possible scores: 0, 2, 3, 4, 5, 6, 7, and 8. A score of 1 is not possible and a score of zero is only assigned for students who refused to write to the prompt, left their essay blank, or wrote to a prompt from an earlier administration.

For each integer score ξ_n on the new form, the true score equating procedure first solved for the corresponding ability level using equations 2 (for all CSTs except grades 4 and 7 ELA) or 3 (for grades 4 and 7 ELA). Next, the procedure used that ability level to find the corresponding number-correct true score ξ_b on the reference form. Finally, each score ξ_b was transformed to the appropriate CST scale score scale using the reference form CST raw-score-to-scale-score conversion tables and linear interpolation.

Complete raw-to-scale score conversion tables for the 2005 CSTs are presented in tables 3.B.1 to 3.B.15 starting on page 52. The raw scores and corresponding unrounded converted scale scores are

[3] The original intention was to scale all tests back to the 2002 forms. However, for tests that went through significant changes in length, content, or equating sampling criteria between 2002 and 2003, our 2005 equating is based on the form from 2003 (these tests are all of the ELAs, history-social science grade 8, mathematics grades 2 through 7, and Integrated Mathematics 1, 2, and 3). The remaining equatings are based on the tests from 2002. The exception is Grade 5 Science; which is equated to this test's first operational administration in 2004.

listed. For all of the 2005 CSTs, scale scores are truncated so that the minimum reported scale score was 150 and the maximum reported scale score was 600. The scale scores defining the various proficiency level cut points are presented in Table 3.3.

Equating the Braille Versions of the CSTs

For some CSTs all of the items in the regular test could not be brailled. Tests for which this occurred included Grade 2 Math (2 items), Grade 4 Math (1 item), Grade 7 Math (1 item), Biology (1 item), Integrated Science 4 (1 item), and Grade 5 Science (1 item). To produce conversions for the shortened tests, the short test was equated to the full-length tests using the parameters and IRT equating methods described above. For these tests, scale score and performance levels on the braille versions were based on the operational raw-to-scale score conversions for the shortened tests.

Equating Samples

This section describes characteristics of the samples used to establish the 2002 reference forms as well as the equating samples used to equate the CSTs in subsequent years. To establish the 2002 reference forms, ETS staff drew samples from the 2002 administrations for each CST content area. In drawing these samples, it was necessary to account for the small portion of the complete testing data available at the time of equating. To simulate a case that reflects only those schools that tested early, the complete CST data was sorted according to test administration date in the student records. Only those students testing before a selected cut off date were selected. For all content areas except upper-level mathematics, 10,000 test takers were randomly sampled from the available records. For the higher-level mathematics CSTs, samples were limited to students in particular grades, as was done in past equatings, as noted below. For the integrated math CSTs, all of the students that were available were sampled, which for each test was substantially fewer than 10,000[4].

Content Area	Equating Sample
General Math	Grades 8 and 9
Algebra I	Grade 8
Integrated Math	Grade 8
Geometry	Grade 9

Content Area	Equating Sample
Integrated Math 2	Grade 9
Algebra II	Grade 10
Integrated Math 3	Grade 10
Summative High School Math	Grade 11

Starting with 2003, equating samples were selected from available student records in a data file obtained near the end of May. As anticipated, these data consisted of only 5 to 10 percent of the total STAR testing data that were available once testing was completed. It was necessary to utilize these partial student samples for equating to meet score reporting deadlines. In addition, for the integrated math CSTs it was necessary to sample all students with valid scores, regardless of their grade, in order to obtain sufficient sample sizes for equating. This change from the intended sampling procedures was due to unusually small sample sizes for these tests and was approved by the CDE. Only students with valid results on the CSTs were included in the equating samples. In addition, students testing out of level or under modified conditions were excluded from these samples.

Table 3.2 summarizes the numbers of students, the mean raw scores, and the standard deviation of raw scores for the reference and 2005 CST equating samples.

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[4] In general, the early sample means are similar but not identical to the performance of the complete CST state as a whole, and performance similarities differ by grade and test. Such variation was expected given that only students from districts that completed their STAR testing early could be included in the equating samples.

Scaling the Integrated Science CSTs

Special scaling procedures were utilized to determine the proficiency levels and scale scores for the integrated science CSTs. Because these tests were restructured for 2003, it was not possible to equate them back to the 2002 CSTs. This procedure was also followed in subsequent years due to small samples at the time of equating. Furthermore, it was determined that the performance necessary to reach each proficiency level category should be based on the cut scores of the four content-based CSTs in science (i.e., Earth Science, Biology, Chemistry, and Physics)[5]. This process was also applied for 2005.

As a result, composite performance level cut scores for the integrated science CSTs were determined through the following steps:

1. First, as with the other CSTs, each 2005 content-area CST (e.g., Earth Science, Biology, Chemistry, and Physics) was equated to a reference form. Additional equatings were then carried out where each subset of items in each integrated test was equated to the full 2005 test. This resulted in 16 additional equatings.
2. For each equating, the equated number correct was recorded on the subset of items that corresponded to each of the four performance levels cut points on the full content test.
3. For each integrated test, these number correct equivalents were added together across the content areas to determine the total number correct scores that represented the "composite" cut scores between performance levels.

[5] These integrated tests are constructed by taking intact blocks of items from the four content-based CSTs in Science.

Table 3.2: Summary Statistics for the Reference Form and 2005 Equating Samples

Subject	CST	Ref. form admin.	Reference form Equating Samples				2005 Equating Samples			
			# of Students	# of Items/Pts	Mean	Std Dev	# of Students	# of Items/Pts	Mean	Std Dev
English-Language Arts	**2**	2003	13,418	65	38.7	13.1	37,010	65	37.8	13.7
	3	2003	13,946	65	40.3	13.0	34,548	65	37.2	12.6
	4*	2003	11,768	83	46.7	15.1	10,947	83	46.9	15.0
	5	2003	14,121	75	40.7	13.4	38,524	75	42.9	14.2
	6	2003	15,387	75	43.5	13.9	33,079	75	42.0	14.6
	7*	2003	13,594	83	47.9	13.8	13,870	83	48.9	14.8
	8	2003	15,339	75	42.4	12.9	31,903	75	41.7	14.0
	9	2003	25,591	75	43.6	14.1	50,430	75	43.4	15.4
	10	2003	23,555	75	41.7	14.8	44,512	75	45.9	15.9
	11	2003	21,742	75	41.7	14.4	39,887	75	43.9	15.6
	* ELA Grades 4 and 7 tests each include one eight-point essay item									
History-Social Science	**8**	2003	15,314	75	37.0	11.4	31,815	75	34.4	12.6
	10	2002	10,000	60	27.7	10.4	44,114	60	30.8	11.5
	11	2002	10,000	60	29.9	10.8	39,358	60	30.5	11.9
Mathematics	**2**	2003	13,491	65	48.5	10.9	37,044	65	45.4	12.0
	3	2003	14,038	65	44.0	11.8	37,683	65	44.3	12.0
	4	2003	14,235	65	43.8	13.1	37,996	65	43.7	13.1
	5	2003	14,178	65	35.9	11.8	38,567	65	37.4	13.3
	6	2003	15,404	65	36.8	12.2	33,074	65	37.2	13.1
	7	2003	16,018	65	34.8	11.8	34,803	65	34.0	12.7
	General Math.	2002	10,000	65	29.8	10.2	34,827	65	30.2	10.9
	Algebra I	2002	10,000	65	35.8	11.5	17,804	65	29.6	10.9
	Geometry	2002	10,000	65	43.2	10.9	11,403	64	42.0	12.2
	Algebra II	2002	10,000	65	37.5	10.8	9,736	64	36.6	10.9
	High School Math.	2002	10,000	65	44.4	11.7	9,349	65	43.3	11.9
	Integrated Math 1	2003	1,668	65	23.6	8.8	1,610	64	24.3	7.9
	Integrated Math 2	2003	1,130	65	31.1	10.6	1,560	64	28.0	9.7
	Integrated Math 3	2003	1,065	65	31.1	11.6	939	65	29.6	9.9
Science	**Grade 5 Science**	2004	24,963	60	26.2	8.6	38,476	60	28.6	9.8
	Biology	2002	10,000	60	32.4	11.2	49,233	60	32.1	11.2
	Chemistry	2002	10,000	60	32.3	10.4	27,043	60	31.9	11.0
	Earth Sciences	2002	10,000	60	29.1	10.9	21,569	60	29.7	11.0
	Physics	2002	10,000	60	32.9	11.7	5,438	60	36.0	11.2
	Integrated Science 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Science 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Science 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Integrated Science 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

As an illustration, the number correct scores defining each of the proficiency level cut points on the 60-item, content-specific science CSTs are shown below. For example, the minimum number correct score to achieve below basic on the Biology CST is 17, the minimum number correct score to achieve basic is 23, etc.

Content Cuts	Biology	Chemistry	Earth Science	Physics
Below Basic	17	18	18	19
Basic	23	25	24	25
Proficient	37	39	38	39
Advanced	48	49	48	49
Items in CST	60	60	60	60

For each content-specific test, a subset of the 60 items was also included in the Integrated Science 1 CST. Using just these subsets of items, equated number correct scores were determined as shown below. For example, 12 biology items were included on the Integrated Science 1 CST, and on these items, the minimum number correct score to achieve below basic was 3.6490. The last column of the table shows the sum of the cuts (truncated to achieve an integer value). These defined the proficiency level cut scores for the 2005 Integrated Science 1 CST.

Equated Cuts	Biology	Chemistry	Earth Science	Physics	Int 1 Cut
Below Basic	3.6490	5.2738	5.8233	3.0699	17
Basic	4.9236	7.3049	7.6330	4.2464	24
Proficient	7.8031	11.3011	11.7141	7.3612	38
Advanced	9.9144	14.0749	14.5614	9.9024	48
Nitems	12	17	18	13	

For each integrated science CST, the proficiency level cuts were translated to scale scores. For basic and proficient, scale scores of 300 and 350 defined these cuts. For below basic and advanced, arbitrary scale scores at levels similar to those for the other science CSTs were assigned based on scaling functions.

Table 3.3: Scale Scores Defining the Various Proficiency Level Cut Points

Subject	CST	Far Below Basic	Below Basic	Basic	Proficient	Advanced
English-Language Arts	**2**	150 – 261	262 – 299	300 – 349	350 – 401	402 – 600
	3	150 – 258	259 – 299	300 – 349	350 – 401	402 – 600
	4	150 – 268	269 – 299	300 – 349	350 – 392	393 – 600
	5	150 – 270	271 – 299	300 – 349	350 – 394	395 – 600
	6	150 – 267	268 – 299	300 – 349	350 – 393	394 – 600
	7	150 – 262	263 – 299	300 – 349	350 – 400	401 – 600
	8	150 – 265	266 – 299	300 – 349	350 – 394	395 – 600
	9	150 – 264	265 – 299	300 – 349	350 – 396	397 – 600
	10	150 – 262	263 – 299	300 – 349	350 – 391	392 – 600
	11	150 – 258	259 – 299	300 – 349	350 – 395	396 – 600
History-Social Science	**8**	150 – 270	271 – 299	300 – 349	350 – 395	396 – 600
	10	150 – 274	275 – 299	300 – 349	350 – 399	400 – 600
	11	150 – 269	270 – 299	300 – 349	350 – 400	401 – 600
Mathematics	**2**	150 – 235	236 – 299	300 – 349	350 – 413	414 – 600
	3	150 – 235	236 – 299	300 – 349	350 – 413	414 – 600
	4	150 – 244	245 – 299	300 – 349	350 – 400	401 – 600
	5	150 – 247	248 – 299	300 – 349	350 – 429	430 – 600
	6	150 – 252	253 – 299	300 – 349	350 – 414	415 – 600
	7	150 – 256	257 – 299	300 – 349	350 – 413	414 – 600
	General Mathematics	150 – 256	257 – 299	300 – 349	350 – 413	414 – 600
	Algebra I	150 – 252	253 – 299	300 – 349	350 – 427	428 – 600
	Geometry	150 – 246	247 – 299	300 – 349	350 – 417	418 – 600
	Algebra II	150 – 256	257 – 299	300 – 349	350 – 415	416 – 600
	High School Mathematics	150 – 234	235 – 299	300 – 349	350 – 419	420 – 600
	Integrated Math 1	150 – 248	249 – 299	300 – 349	350 – 424	425 – 600
	Integrated Math 2	150 – 257	258 – 299	300 – 349	350 – 417	418 – 600
	Integrated Math 3	150 – 251	252 – 299	300 – 349	350 – 427	428 – 600
Science	**Science Grade 5**	150 – 267	268 – 299	300 – 349	350 – 409	410 – 600
	Biology	150 – 275	276 – 299	300 – 349	350 – 393	394 – 600
	Chemistry	150 – 275	276 – 299	300 – 349	350 – 393	394 – 600
	Earth Sciences	150 – 276	277 – 299	300 – 349	350 – 392	393 – 600
	Physics	150 – 275	276 – 299	300 – 349	350 – 392	393 – 600
	Integrated Science 1	150 – 276	277 – 299	300 – 349	350 – 389	390 – 600
	Integrated Science 2	150 – 277	278 – 299	300 – 349	350 – 390	391 – 600
	Integrated Science 3	150 – 275	276 – 299	300 – 349	350 – 390	391 – 600
	Integrated Science 4	150 – 275	276 – 299	300 – 349	350 – 396	397 – 600

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Appendix 3.A — Reference Form Conversions Tables

Table 3.A.1: 2005 Reference Form Conversions for English-Language Arts Grades 2 and 3 from 2003 Administration

Grade 2						Grade 3					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	8.0005	41	0.4999	337.3912	0	N/A	-12.3995	41	0.2415	322.6778
1	-4.5437	81.3342	42	0.5742	341.2568	1	-4.7271	56.2900	42	0.3149	326.9603
2	-3.8224	119.4626	43	0.6500	345.0871	2	-4.0107	95.3059	43	0.3896	330.7308
3	-3.3889	142.0353	44	0.7272	348.8823	3	-3.5816	118.5114	44	0.4660	334.8170
4	-3.0733	157.6228	45	0.8063	352.6621	4	-3.2701	135.3614	45	0.5442	339.2189
5	-2.8223	170.2852	46	0.8875	356.9172	5	-3.0229	148.5997	46	0.6244	343.1104
6	-2.6121	181.0908	47	0.9710	361.1299	6	-2.8163	159.6938	47	0.7070	347.5695
7	-2.4302	190.2749	48	1.0573	365.3994	7	-2.6377	169.0488	48	0.7923	352.4190
8	-2.2689	198.2163	49	1.1466	370.0406	8	-2.4794	177.4434	49	0.8807	357.0888
9	-2.1233	205.5151	50	1.2395	374.6302	9	-2.3367	185.1575	50	0.9727	362.1066
10	-1.9901	212.1791	51	1.3366	379.3011	10	-2.2061	192.1923	51	1.0688	367.1179
11	-1.8668	218.4412	52	1.4386	384.4150	11	-2.0854	198.5770	52	1.1698	372.1889
12	-1.7518	224.3567	53	1.5462	389.9542	12	-1.9726	204.5391	53	1.2764	378.3041
13	-1.6435	229.6364	54	1.6605	395.7913	13	-1.8665	210.2147	54	1.3898	384.1307
14	-1.5409	234.8966	55	1.7829	401.7285	14	-1.7660	215.5993	55	1.5112	390.6549
15	-1.4433	239.6365	56	1.9151	408.4213	15	-1.6703	220.9943	56	1.6425	397.4667
16	-1.3498	244.6856	57	2.0597	415.5152	16	-1.5787	225.8957	57	1.7860	405.2308
17	-1.2600	248.9134	58	2.2198	423.8009	17	-1.4906	230.6646	58	1.9451	413.8326
18	-1.1734	253.2591	59	2.4004	432.8449	18	-1.4056	234.8869	59	2.1247	423.2610
19	-1.0895	257.6552	60	2.6091	443.3190	19	-1.3233	239.3123	60	2.3324	434.4162
20	-1.0080	261.4986	61	2.8584	456.1270	20	-1.2434	243.6194	61	2.5807	447.9483
21	-0.9286	265.7100	62	3.1725	472.3219	21	-1.1654	247.6088	62	2.8935	464.8016
22	-0.8511	269.6276	63	3.6040	495.4826	22	-1.0893	251.8679	63	3.3240	487.8330
23	-0.7752	273.4121	64	4.3231	529.9458	23	-1.0147	255.6312	64	4.0419	526.4213
24	-0.7006	277.1769	65	N/A	578.9995	24	-0.9414	259.8281	65	N/A	594.9795
25	-0.6273	280.9192				25	-0.8693	263.5027			
26	-0.5550	284.6168				26	-0.7982	267.1850			
27	-0.4836	287.8392				27	-0.7279	271.1823			
28	-0.4129	291.5157				28	-0.6584	275.1020			
29	-0.3428	295.1692				29	-0.5893	278.8064			
30	-0.2731	298.7992				30	-0.5207	281.9878			
31	-0.2037	301.9053				31	-0.4524	285.7060			
32	-0.1346	305.4870				32	-0.3843	289.4308			
33	-0.0655	309.0439				33	-0.3162	293.1619			
34	0.0037	312.5755				34	-0.2481	296.8989			
35	0.0730	316.0814				35	-0.1797	300.6415			
36	0.1426	319.5610				36	-0.1111	303.8592			
37	0.2127	323.0140				37	-0.0420	307.6118			
38	0.2833	326.4399				38	0.0277	311.3687			
39	0.3546	330.0612				39	0.0980	315.1296			
40	0.4267	333.7083				40	0.1692	318.8939			

Table 3.A.2: 2005 Reference Form Conversions for English-Language Arts Grade 4 (with and without essay) from 2003 Administration

Grade 4					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.0007	41	0.0746	323.4106
1	-4.6964	83.2185	42	0.1312	326.0086
2	-3.9712	119.6059	43	0.1880	328.8786
3	-3.5350	141.4494	44	0.2449	331.6791
4	-3.2178	157.3121	45	0.3021	334.7504
5	-2.9661	170.1059	46	0.3597	337.7492
6	-2.7563	180.7910	47	0.4177	340.3618
7	-2.5753	189.9927	48	0.4761	343.4006
8	-2.4157	197.9425	49	0.5351	346.4274
9	-2.2724	205.0904	50	0.5947	349.4414
10	-2.1419	211.5501	51	0.6550	352.4419
11	-2.0219	217.6043	52	0.7161	355.4306
12	-1.9106	223.3239	53	0.7780	358.4036
13	-1.8064	228.3500	54	0.8410	361.7339
14	-1.7084	233.6698	55	0.9049	364.8040
15	-1.6156	238.1988	56	0.9701	368.2302
16	-1.5274	242.8167	57	1.0365	371.2672
17	-1.4432	246.7074	58	1.1044	374.7369
18	-1.3624	250.9378	59	1.1739	378.1841
19	-1.2846	254.6759	60	1.2451	381.9587
20	-1.2096	258.4207	61	1.3183	385.5075
21	-1.1370	262.1714	62	1.3937	389.3608
22	-1.0665	265.8558	63	1.4715	393.2639
23	-0.9979	269.1870	64	1.5520	397.2233
24	-0.9310	272.6257	65	1.6356	401.6035
25	-0.8656	275.7649	66	1.7226	405.9398
26	-0.8016	279.4062	67	1.8135	410.4458
27	-0.7388	282.5491	68	1.9090	415.2169
28	-0.6770	285.6932	69	2.0098	420.2007
29	-0.6162	288.3703	70	2.1167	425.6598
30	-0.5561	291.4831	71	2.2311	431.2810
31	-0.4969	294.6272	72	2.3543	437.4354
32	-0.4382	297.4163	73	2.4885	444.5205
33	-0.3801	300.4120	74	2.6365	452.2231
34	-0.3224	303.4412	75	2.8022	460.6471
35	-0.2651	306.1881	76	2.9915	470.8717
36	-0.2081	308.9569	77	3.2124	483.3768
37	-0.1514	311.9501	78	3.4769	499.0933
38	-0.0948	314.5742	79	3.7999	519.8148
39	-0.0383	317.6928	80	4.1948	546.3262
40	0.0182	320.4441	81	4.6760	577.5509
			82	5.3405	610.4027
			83	N/A	643.4995

Grade 4 (without essay)					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.0007	41	0.2836	333.3135
1	-4.4487	93.4191	42	0.3436	336.3800
2	-3.7361	130.8680	43	0.4041	339.4322
3	-3.3107	152.7918	44	0.4650	342.4693
4	-3.0030	168.3471	45	0.5264	345.4909
5	-2.7596	180.6187	46	0.5884	348.4962
6	-2.5568	190.8911	47	0.6512	351.9818
7	-2.3820	199.5233	48	0.7148	354.9559
8	-2.2276	207.1433	49	0.7793	358.0933
9	-2.0887	214.3100	50	0.8450	361.6161
10	-1.9621	220.4827	51	0.9118	364.7637
11	-1.8452	226.3493	52	0.9800	368.0935
12	-1.7365	231.9148	53	1.0497	372.0468
13	-1.6344	237.1297	54	1.1211	375.4758
14	-1.5381	241.7385	55	1.1945	379.0260
15	-1.4466	246.2999	56	1.2700	382.9663
16	-1.3592	250.8597	57	1.3481	386.8791
17	-1.2756	254.9173	58	1.4289	390.7592
18	-1.1950	259.2625	59	1.5129	394.9802
19	-1.1173	263.1634	60	1.6005	399.3416
20	-1.0420	266.5614	61	1.6923	404.1236
21	-0.9689	270.4557	62	1.7889	408.9451
22	-0.8977	274.0381	63	1.8912	414.2477
23	-0.8282	277.2758	64	2.0002	419.5576
24	-0.7603	281.0090	65	2.1173	425.3628
25	-0.6936	284.2373	66	2.2442	431.7311
26	-0.6282	287.4602	67	2.3833	438.9837
27	-0.5639	290.6772	68	2.5379	446.7810
28	-0.5004	293.8885	69	2.7129	455.5028
29	-0.4378	297.0920	70	2.9159	465.4240
30	-0.3759	300.2884	71	3.1594	477.8303
31	-0.3146	303.3816	72	3.4672	493.7064
32	-0.2539	306.1572	73	3.8926	515.4880
33	-0.1935	309.3285	74	4.6050	550.7061
34	-0.1335	312.4904	75	N/A	607.4995
35	-0.0738	315.5139			
36	-0.0142	318.2839			
37	0.0453	321.4151			
38	0.1047	324.5262			
39	0.1642	327.1392			
40	0.2238	330.2330			

Table 3.A.3: 2005 Reference Form Conversions for English-Language Arts Grades 5 and 6 from 2003 Administration

Grade 5					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	25.0005	**41**	0.2832	334.2313
1	-4.5232	91.2690	**42**	0.3451	337.3238
2	-3.8082	128.4570	**43**	0.4073	340.4047
3	-3.3807	150.2886	**44**	0.4699	343.4733
4	-3.0707	166.1057	**45**	0.5331	346.5349
5	-2.8251	178.3099	**46**	0.5970	350.0714
6	-2.6202	188.7877	**47**	0.6616	353.0996
7	-2.4433	197.7182	**48**	0.7270	356.4354
8	-2.2868	205.4334	**49**	0.7934	359.6128
9	-2.1460	212.7199	**50**	0.8609	363.1147
10	-2.0173	219.0894	**51**	0.9297	366.6743
11	-1.8985	225.0217	**52**	0.9998	370.2133
12	-1.7878	230.6853	**53**	1.0714	373.7310
13	-1.6839	235.8016	**54**	1.1448	377.2265
14	-1.5856	240.5580	**55**	1.2201	381.1485
15	-1.4923	245.5437	**56**	1.2977	385.1707
16	-1.4031	249.8852	**57**	1.3777	389.1679
17	-1.3176	254.0245	**58**	1.4606	393.1333
18	-1.2352	258.0871	**59**	1.5466	397.2921
19	-1.1557	262.0136	**60**	1.6364	401.7528
20	-1.0786	266.0780	**61**	1.7303	406.5107
21	-1.0037	269.6471	**62**	1.8291	411.4436
22	-0.9308	273.5000	**63**	1.9336	416.7574
23	-0.8595	276.8517	**64**	2.0448	422.1369
24	-0.7898	280.4179	**65**	2.1642	428.4595
25	-0.7215	284.0490	**66**	2.2934	434.8118
26	-0.6543	287.3279	**67**	2.4348	441.6866
27	-0.5883	290.5286	**68**	2.5917	449.5509
28	-0.5231	293.7263	**69**	2.7691	458.4379
29	-0.4588	296.9191	**70**	2.9745	468.8263
30	-0.3952	300.1076	**71**	3.2205	481.2934
31	-0.3322	303.2911	**72**	3.5308	497.2493
32	-0.2697	306.4690	**73**	3.9587	519.0806
33	-0.2076	309.6409	**74**	4.6737	554.4535
34	-0.1459	312.8061	**75**	N/A	611.4995
35	-0.0845	315.9641			
36	-0.0232	319.1148			
37	0.0380	321.7571			
38	0.0991	324.8898			
39	0.1604	328.0144			
40	0.2217	331.1278			

Grade 6					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.0005	**41**	0.1678	325.3101
1	-4.6742	75.6708	**42**	0.2309	328.4195
2	-3.9591	114.5524	**43**	0.2944	332.0112
3	-3.5313	136.9498	**44**	0.3583	335.0743
4	-3.2210	152.5120	**45**	0.4228	338.4260
5	-2.9750	165.4989	**46**	0.4879	341.6426
6	-2.7696	175.7473	**47**	0.5538	345.1298
7	-2.5922	184.9952	**48**	0.6206	348.1830
8	-2.4352	192.8599	**49**	0.6884	351.7187
9	-2.2937	199.9416	**50**	0.7572	355.2222
10	-2.1643	206.4985	**51**	0.8273	358.9834
11	-2.0448	212.6492	**52**	0.8988	362.6443
12	-1.9334	218.2760	**53**	0.9718	366.4615
13	-1.8287	223.8197	**54**	1.0466	369.9345
14	-1.7296	228.7185	**55**	1.1234	373.7819
15	-1.6354	233.6049	**56**	1.2024	378.1453
16	-1.5454	238.3559	**57**	1.2838	382.0291
17	-1.4590	242.5219	**58**	1.3682	386.4399
18	-1.3757	246.6763	**59**	1.4558	391.1037
19	-1.2953	250.8186	**60**	1.5470	395.4477
20	-1.2173	254.9491	**61**	1.6425	400.2667
21	-1.1414	258.5557	**62**	1.7428	405.5391
22	-1.0675	262.4812	**63**	1.8489	411.0967
23	-0.9953	266.2396	**64**	1.9618	416.7104
24	-0.9245	269.7963	**65**	2.0828	422.8306
25	-0.8552	273.1808	**66**	2.2137	429.6927
26	-0.7870	276.8933	**67**	2.3569	436.9432
27	-0.7198	280.4216	**68**	2.5157	444.9445
28	-0.6536	283.7675	**69**	2.6949	454.1527
29	-0.5882	287.0989	**70**	2.9020	464.8590
30	-0.5235	290.4160	**71**	3.1501	477.6250
31	-0.4594	293.6168	**72**	3.4625	494.2802
32	-0.3958	296.4957	**73**	3.8921	518.0198
33	-0.3326	299.7671	**74**	4.6097	552.7694
34	-0.2697	303.0224	**75**	N/A	602.2694
35	-0.2071	306.2608			
36	-0.1447	309.4820			
37	-0.0823	312.6854			
38	-0.0200	315.8703			
39	0.0425	319.0367			
40	0.1050	322.1834			

Table 3.A.4: 2005 Reference Form Conversions for English-Language Arts Grade 7 (with and without essay) from 2003 Administration

Grade 7					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	-40.1194	**41**	0.2018	313.1986
1	-4.7493	32.5226	**42**	0.2592	316.5220
2	-4.0113	74.6339	**43**	0.3166	319.8252
3	-3.5637	100.2591	**44**	0.3741	323.1092
4	-3.2361	118.7700	**45**	0.4318	326.3748
5	-2.9752	134.1180	**46**	0.4899	329.6229
6	-2.7568	146.1606	**47**	0.5482	332.8543
7	-2.5681	156.5223	**48**	0.6070	336.0702
8	-2.4012	166.2387	**49**	0.6664	339.2711
9	-2.2511	174.5730	**50**	0.7263	342.9257
10	-2.1144	182.1105	**51**	0.7870	346.1918
11	-1.9884	189.4959	**52**	0.8485	349.9129
12	-1.8714	195.9309	**53**	0.9109	353.1861
13	-1.7618	201.8854	**54**	0.9744	356.9536
14	-1.6586	207.8503	**55**	1.0391	360.7068
15	-1.5609	213.2579	**56**	1.1051	364.4473
16	-1.4679	218.6544	**57**	1.1726	368.1754
17	-1.3791	223.5026	**58**	1.2418	371.8908
18	-1.2939	228.4612	**59**	1.3128	376.0944
19	-1.2119	233.0679	**60**	1.3859	379.8459
20	-1.1328	237.6595	**61**	1.4612	384.1305
21	-1.0562	241.7475	**62**	1.5392	388.4043
22	-0.9819	246.1019	**63**	1.6201	392.6604
23	-0.9097	250.1971	**64**	1.7042	397.0885
24	-0.8393	254.1928	**65**	1.7919	401.6739
25	-0.7706	257.9264	**66**	1.8838	406.4130
26	-0.7033	261.6371	**67**	1.9803	411.4653
27	-0.6375	265.3241	**68**	2.0822	416.5382
28	-0.5728	268.9866	**69**	2.1901	422.1892
29	-0.5093	272.6240	**70**	2.3052	428.0146
30	-0.4467	276.2361	**71**	2.4282	434.1794
31	-0.3850	279.8230	**72**	2.5606	441.2560
32	-0.3241	283.3835	**73**	2.7040	448.5103
33	-0.2640	286.5828	**74**	2.8602	456.7795
34	-0.2044	289.8681	**75**	3.0319	466.3015
35	-0.1454	293.3527	**76**	3.2227	477.1275
36	-0.0868	296.8125	**77**	3.4378	489.4443
37	-0.0286	299.9343	**78**	3.6856	503.5095
38	0.0293	303.0996	**79**	3.9797	519.7274
39	0.0869	306.4882	**80**	4.3439	543.6572
40	0.1444	309.8543	**81**	4.8236	568.7950
			82	5.5627	600.2677
			83	N/A	628.5194

Grade 7 (without essay)					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.0002	**41**	0.3674	319.9605
1	-4.4478	46.1642	**42**	0.4285	323.7113
2	-3.7313	89.7624	**43**	0.4899	327.1238
3	-3.3022	113.6940	**44**	0.5516	330.4641
4	-2.9908	131.2725	**45**	0.6139	334.2013
5	-2.7440	145.0267	**46**	0.6769	337.6727
6	-2.5378	156.5913	**47**	0.7405	341.1910
7	-2.3598	166.7540	**48**	0.8049	344.7745
8	-2.2023	175.5091	**49**	0.8703	348.5644
9	-2.0605	183.5931	**50**	0.9367	352.3292
10	-1.9309	190.6755	**51**	1.0043	356.0648
11	-1.8113	197.7199	**52**	1.0733	359.7724
12	-1.6999	203.8892	**53**	1.1438	363.6070
13	-1.5953	209.6633	**54**	1.2161	367.8657
14	-1.4965	215.2639	**55**	1.2902	372.0899
15	-1.4026	220.6301	**56**	1.3666	376.2832
16	-1.3130	225.5567	**57**	1.4454	380.7602
17	-1.2270	230.6705	**58**	1.5270	385.4711
18	-1.1444	235.2020	**59**	1.6118	390.1417
19	-1.0646	239.7106	**60**	1.7003	395.1628
20	-0.9873	244.1310	**61**	1.7929	400.3246
21	-0.9122	248.1015	**62**	1.8904	405.8524
22	-0.8392	252.1130	**63**	1.9936	411.4817
23	-0.7679	256.3564	**64**	2.1036	417.4699
24	-0.6982	260.2414	**65**	2.2217	424.3579
25	-0.6300	264.2275	**66**	2.3497	431.4630
26	-0.5629	267.8552	**67**	2.4898	439.2412
27	-0.4970	271.4643	**68**	2.6456	447.9642
28	-0.4321	275.0552	**69**	2.8218	457.9107
29	-0.3680	278.6263	**70**	3.0261	469.5006
30	-0.3047	282.1786	**71**	3.2710	483.5723
31	-0.2421	285.7119	**72**	3.5803	501.4720
32	-0.1800	289.2261	**73**	4.0072	526.4851
33	-0.1184	292.7208	**74**	4.7212	565.3276
34	-0.0572	296.1960	**75**	N/A	625.1594
35	0.0038	299.6516			
36	0.0645	303.0872			
37	0.1250	306.5027			
38	0.1855	309.8980			
39	0.2461	313.2729			
40	0.3067	316.6271			

Table 3.A.5: 2005 Reference Form Conversions for English-Language Arts Grades 8 and 9 from 2003 Administration

Grade 8					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.0003	**41**	0.1052	322.7053
1	-4.6563	52.6274	**42**	0.1662	326.5359
2	-3.9434	95.2574	**43**	0.2275	329.8427
3	-3.5178	119.6732	**44**	0.2892	333.1348
4	-3.2096	137.0117	**45**	0.3515	336.8621
5	-2.9658	150.7900	**46**	0.4143	340.2334
6	-2.7625	161.9244	**47**	0.4779	343.5512
7	-2.5872	171.9237	**48**	0.5424	347.4271
8	-2.4322	180.5713	**49**	0.6077	351.0449
9	-2.2928	188.3631	**50**	0.6742	354.5638
10	-2.1655	195.6629	**51**	0.7418	358.3818
11	-2.0480	201.9565	**52**	0.8108	362.6497
12	-1.9386	208.3946	**53**	0.8813	366.5173
13	-1.8359	213.8690	**54**	0.9535	370.3197
14	-1.7388	219.6287	**55**	1.0276	374.6780
15	-1.6466	224.8054	**56**	1.1039	379.0112
16	-1.5585	229.4856	**57**	1.1827	383.3189
17	-1.4741	234.4449	**58**	1.2642	387.8738
18	-1.3928	238.8260	**59**	1.3489	392.7407
19	-1.3143	243.1892	**60**	1.4372	397.5752
20	-1.2382	247.5349	**61**	1.5296	402.7866
21	-1.1643	251.6730	**62**	1.6269	408.1565
22	-1.0923	255.6150	**63**	1.7299	413.9682
23	-1.0220	259.4049	**64**	1.8395	420.3622
24	-0.9532	263.5303	**65**	1.9572	426.7952
25	-0.8857	267.3306	**66**	2.0847	433.7391
26	-0.8195	271.1805	**67**	2.2243	441.8082
27	-0.7543	274.7056	**68**	2.3795	450.4455
28	-0.6900	278.2178	**69**	2.5550	460.2084
29	-0.6265	281.7160	**70**	2.7584	471.6451
30	-0.5638	285.2012	**71**	3.0024	485.3634
31	-0.5016	288.6733	**72**	3.3107	502.9910
32	-0.4400	292.1321	**73**	3.7363	526.9553
33	-0.3788	295.5777	**74**	4.4494	566.7023
34	-0.3179	299.0100	**75**	N/A	633.1994
35	-0.2573	302.4289			
36	-0.1969	305.8343			
37	-0.1365	309.2261			
38	-0.0762	312.6042			
39	-0.0159	315.9681			
40	0.0446	319.3185			

Grade 9					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.0003	**41**	0.1809	328.2066
1	-4.5589	56.0380	**42**	0.2410	331.5626
2	-3.8447	99.8361	**43**	0.3015	334.9034
3	-3.4181	123.7854	**44**	0.3624	338.2290
4	-3.1091	141.9399	**45**	0.4240	341.8070
5	-2.8647	155.6772	**46**	0.4862	345.4038
6	-2.6610	167.0185	**47**	0.5492	348.6825
7	-2.4853	177.3053	**48**	0.6132	352.4721
8	-2.3302	185.7875	**49**	0.6781	356.3339
9	-2.1908	193.7503	**50**	0.7441	359.6757
10	-2.0636	200.8694	**51**	0.8114	363.5326
11	-1.9463	207.9390	**52**	0.8802	367.3690
12	-1.8372	213.7403	**53**	0.9506	371.5036
13	-1.7349	219.6546	**54**	1.0227	375.5485
14	-1.6383	225.0460	**55**	1.0969	379.7605
15	-1.5466	230.4042	**56**	1.1734	384.1343
16	-1.4592	235.4274	**57**	1.2524	388.4797
17	-1.3754	239.9659	**58**	1.3344	393.3930
18	-1.2948	244.4786	**59**	1.4196	398.2952
19	-1.2171	248.9661	**60**	1.5086	403.2670
20	-1.1418	253.4293	**61**	1.6019	408.7027
21	-1.0688	257.2985	**62**	1.7002	414.0963
22	-0.9977	261.4955	**63**	1.8043	419.8295
23	-0.9283	265.1567	**64**	1.9153	426.3116
24	-0.8605	269.3395	**65**	2.0345	432.9588
25	-0.7940	272.9945	**66**	2.1639	440.3705
26	-0.7288	276.6018	**67**	2.3055	448.6226
27	-0.6646	280.1918	**68**	2.4629	457.5832
28	-0.6013	283.7655	**69**	2.6409	467.7671
29	-0.5389	287.3217	**70**	2.8470	479.6418
30	-0.4772	290.8617	**71**	3.0942	493.8275
31	-0.4161	294.3856	**72**	3.4059	511.7458
32	-0.3555	297.8938	**73**	3.8352	537.1057
33	-0.2954	301.2830	**74**	4.5524	577.0832
34	-0.2355	304.2932	**75**	N/A	639.4494
35	-0.1759	307.7548			
36	-0.1165	311.2011			
37	-0.0572	314.6312			
38	0.0021	318.0484			
39	0.0615	321.4495			
40	0.1211	324.8356			

Table 3.A.6: 2005 Reference Form Conversions for English-Language Arts Grades 10 and 11 from 2003 Administration

Grade 10					
Raw Score	**Theta**	**Scale Score**	**Raw Score**	**Theta**	**Scale Score**
0	N/A	0.4005	**41**	0.1554	324.6491
1	-4.5657	76.1174	**42**	0.2150	327.7203
2	-3.8529	115.5093	**43**	0.2750	330.7753
3	-3.4275	138.2835	**44**	0.3354	333.9370
4	-3.1197	154.1481	**45**	0.3963	337.3569
5	-2.8762	166.8426	**46**	0.4579	340.3632
6	-2.6733	177.5192	**47**	0.5202	343.7196
7	-2.4985	186.7733	**48**	0.5834	346.8460
8	-2.3441	194.6576	**49**	0.6476	350.3174
9	-2.2052	201.8554	**50**	0.7128	353.7850
10	-2.0786	208.4919	**51**	0.7793	356.8343
11	-1.9618	214.6653	**52**	0.8472	360.5093
12	-1.8532	220.4009	**53**	0.9166	364.3095
13	-1.7513	225.4795	**54**	0.9878	367.7559
14	-1.6551	230.4115	**55**	1.0609	371.5313
15	-1.5637	235.3216	**56**	1.1363	375.5022
16	-1.4766	240.1222	**57**	1.2141	379.4471
17	-1.3932	244.2925	**58**	1.2948	383.8490
18	-1.3129	248.4434	**59**	1.3787	388.2989
19	-1.2354	252.5748	**60**	1.4662	392.7480
20	-1.1604	256.4392	**61**	1.5580	397.6848
21	-1.0877	260.2593	**62**	1.6547	402.5858
22	-1.0168	263.7634	**63**	1.7571	407.6572
23	-0.9477	267.3453	**64**	1.8663	413.5572
24	-0.8801	271.0225	**65**	1.9836	419.5417
25	-0.8139	274.3676	**66**	2.1108	426.1586
26	-0.7489	277.6963	**67**	2.2502	433.6308
27	-0.6850	281.0088	**68**	2.4051	441.7004
28	-0.6220	284.3057	**69**	2.5806	450.8548
29	-0.5599	287.5853	**70**	2.7839	461.5504
30	-0.4984	290.8490	**71**	3.0281	474.3378
31	-0.4376	294.0965	**72**	3.3366	490.4284
32	-0.3774	296.9104	**73**	3.7624	513.1125
33	-0.3175	300.0233	**74**	4.4759	549.7051
34	-0.2580	303.2226	**75**	N/A	608.7994
35	-0.1988	306.4059			
36	-0.1397	309.5731			
37	-0.0808	312.2435			
38	-0.0219	315.3393			
39	0.0370	318.4578			
40	0.0961	321.5619			

Grade 11					
Raw Score	**Theta**	**Scale Score**	**Raw Score**	**Theta**	**Scale Score**
0	N/A	0.0001	**41**	0.1164	319.4672
1	-4.6698	28.0624	**42**	0.1779	323.0197
2	-3.9560	73.5067	**43**	0.2397	326.5600
3	-3.5295	99.8044	**44**	0.3020	330.3200
4	-3.2205	118.2430	**45**	0.3648	334.2070
5	-2.9758	133.0252	**46**	0.4283	338.1403
6	-2.7718	145.9368	**47**	0.4924	341.8049
7	-2.5956	156.0914	**48**	0.5574	345.8868
8	-2.4399	165.6346	**49**	0.6234	349.4612
9	-2.2997	173.9430	**50**	0.6905	353.6078
10	-2.1717	181.6574	**51**	0.7587	357.7402
11	-2.0536	188.7438	**52**	0.8283	361.8583
12	-1.9434	195.8070	**53**	0.8995	366.4060
13	-1.8400	201.5136	**54**	0.9724	370.6554
14	-1.7423	207.4465	**55**	1.0472	375.3304
15	-1.6494	213.3655	**56**	1.1242	379.4670
16	-1.5608	218.3093	**57**	1.2037	384.3321
17	-1.4757	223.7145	**58**	1.2860	389.5030
18	-1.3938	228.7188	**59**	1.3715	394.4759
19	-1.3147	233.3219	**60**	1.4606	399.8238
20	-1.2380	237.9101	**61**	1.5539	405.5637
21	-1.1635	242.4835	**62**	1.6521	411.5450
22	-1.0910	247.0418	**63**	1.7559	417.5101
23	-1.0201	251.0089	**64**	1.8665	424.0475
24	-0.9508	255.3859	**65**	1.9852	431.3277
25	-0.8828	259.1475	**66**	2.1137	439.2306
26	-0.8160	263.3181	**67**	2.2544	447.4199
27	-0.7502	267.2367	**68**	2.4107	457.0202
28	-0.6854	271.0665	**69**	2.5873	467.7753
29	-0.6215	275.2767	**70**	2.7919	479.8586
30	-0.5582	278.9766	**71**	3.0372	494.8197
31	-0.4955	282.6641	**72**	3.3468	513.7877
32	-0.4334	286.3394	**73**	3.7737	539.9668
33	-0.3717	290.0024	**74**	4.4883	583.5578
34	-0.3103	293.6532	**75**	N/A	661.7843
35	-0.2492	297.2916			
36	-0.1882	300.9177			
37	-0.1274	304.5315			
38	-0.0666	308.1331			
39	-0.0057	311.7223			
40	0.0553	315.7091			

Table 3.A.7: 2005 Reference Form Conversion for History-Social Science Grade 8 from 2003 Administration

Grade 8					
Raw Score	**Theta**	**Scale Score**	**Raw Score**	**Theta**	**Scale Score**
0	N/A	0.0003	**41**	0.3835	338.4750
1	-4.3076	46.4047	**42**	0.4418	342.5352
2	-3.5940	85.6379	**43**	0.5004	346.2606
3	-3.1679	114.3295	**44**	0.5595	349.8254
4	-2.8597	134.2037	**45**	0.6191	353.4968
5	-2.6160	149.9413	**46**	0.6793	357.5494
6	-2.4132	162.9511	**47**	0.7403	361.0930
7	-2.2384	173.6291	**48**	0.8021	364.9898
8	-2.0843	183.3476	**49**	0.8648	369.0065
9	-1.9458	192.2493	**50**	0.9286	373.0137
10	-1.8196	200.3279	**51**	0.9936	377.0062
11	-1.7034	207.6236	**52**	1.0600	380.9855
12	-1.5953	214.4455	**53**	1.1279	385.2975
13	-1.4940	220.8079	**54**	1.1975	389.7426
14	-1.3985	226.7536	**55**	1.2690	394.2428
15	-1.3079	232.5368	**56**	1.3428	399.1478
16	-1.2216	238.1701	**57**	1.4191	404.0316
17	-1.1390	243.3828	**58**	1.4981	408.8957
18	-1.0596	248.1175	**59**	1.5803	413.8717
19	-0.9830	252.8524	**60**	1.6661	419.1773
20	-0.9090	257.5867	**61**	1.7562	424.9239
21	-0.8371	262.0577	**62**	1.8511	430.9724
22	-0.7672	266.2637	**63**	1.9517	437.3152
23	-0.6991	270.4678	**64**	2.0590	443.9453
24	-0.6326	274.6697	**65**	2.1745	451.4872
25	-0.5674	278.8690	**66**	2.2997	459.2984
26	-0.5034	283.0652	**67**	2.4372	467.8162
27	-0.4406	286.9956	**68**	2.5902	477.5536
28	-0.3786	290.8173	**69**	2.7636	488.5622
29	-0.3176	294.9526	**70**	2.9650	501.4647
30	-0.2573	298.6099	**71**	3.2071	516.7514
31	-0.1976	302.2628	**72**	3.5134	536.2218
32	-0.1384	305.9111	**73**	3.9373	565.9154
33	-0.0797	309.5542	**74**	4.6483	607.1356
34	-0.0214	313.1930	**75**	N/A	661.2695
35	0.0366	316.8238			
36	0.0945	320.4496			
37	0.1522	324.0689			
38	0.2099	327.6815			
39	0.2676	331.2869			
40	0.3255	334.8849			

Table 3.A.8: 2005 Reference Form Conversions for History-Social Science Grades 10 and 11 from 2002 Administration

Grade 10					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.00	**41**	0.65	373.60
1	-4.33	54.88	**42**	0.73	378.72
2	-3.62	100.32	**43**	0.81	383.84
3	-3.19	127.84	**44**	0.90	389.60
4	-2.88	147.68	**45**	0.99	395.36
5	-2.64	163.04	**46**	1.08	401.12
6	-2.43	176.48	**47**	1.18	407.52
7	-2.25	188.00	**48**	1.29	414.56
8	-2.10	197.60	**49**	1.40	421.60
9	-1.96	206.56	**50**	1.51	428.64
10	-1.83	214.88	**51**	1.64	436.96
11	-1.71	222.56	**52**	1.78	445.92
12	-1.60	229.60	**53**	1.94	456.16
13	-1.49	236.64	**54**	2.11	467.04
14	-1.39	243.04	**55**	2.32	480.48
15	-1.30	248.80	**56**	2.56	495.84
16	-1.21	254.56	**57**	2.87	515.68
17	-1.12	260.32	**58**	3.29	542.56
18	-1.04	265.44	**59**	4.01	588.64
19	-0.95	271.20	**60**	N/A	666.72
20	-0.88	275.68			
21	-0.80	280.80			
22	-0.72	285.92			
23	-0.65	290.40			
24	-0.58	294.88			
25	-0.50	300.00			
26	-0.43	304.48			
27	-0.36	308.96			
28	-0.29	313.44			
29	-0.22	317.92			
30	-0.15	322.40			
31	-0.08	326.88			
32	-0.01	331.36			
33	0.06	335.84			
34	0.13	340.32			
35	0.20	344.80			
36	0.27	349.28			
37	0.34	353.76			
38	0.42	358.88			
39	0.49	363.36			
40	0.57	368.48			

Grade 11					
Raw Score	Theta	Scale Score	Raw Score	Theta	Scale Score
0	N/A	0.00	**41**	0.73	373.72
1	-4.33	49.88	**42**	0.81	378.84
2	-3.61	95.96	**43**	0.90	384.60
3	-3.17	124.12	**44**	0.98	389.72
4	-2.86	143.96	**45**	1.07	395.48
5	-2.61	159.96	**46**	1.17	401.88
6	-2.40	173.40	**47**	1.27	408.28
7	-2.22	184.92	**48**	1.37	414.68
8	-2.06	195.16	**49**	1.48	421.72
9	-1.92	204.12	**50**	1.60	429.40
10	-1.78	213.08	**51**	1.73	437.72
11	-1.66	220.76	**52**	1.87	446.68
12	-1.55	227.80	**53**	2.03	456.92
13	-1.44	234.84	**54**	2.20	467.80
14	-1.34	241.24	**55**	2.41	481.24
15	-1.24	247.64	**56**	2.65	496.60
16	-1.15	253.40	**57**	2.96	516.44
17	-1.06	259.16	**58**	3.39	543.96
18	-0.98	264.28	**59**	4.10	589.40
19	-0.89	270.04	**60**	N/A	667.48
20	-0.81	275.16			
21	-0.74	279.64			
22	-0.66	284.76			
23	-0.58	289.88			
24	-0.51	294.36			
25	-0.44	298.84			
26	-0.36	303.96			
27	-0.29	308.44			
28	-0.22	312.92			
29	-0.15	317.40			
30	-0.08	321.88			
31	-0.01	326.36			
32	0.06	330.84			
33	0.13	335.32			
34	0.20	339.80			
35	0.28	344.92			
36	0.35	349.40			
37	0.42	353.88			
38	0.50	359.00			
39	0.57	363.48			
40	0.65	368.60			

Table 3.A.9: 2005 Reference Form Conversions for Mathematics Grades 2 to 7 from 2003 Administration

	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
Raw Score	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**
0	N/A	0.0000	N/A	0.0000	N/A	2.3404	N/A	0.0000	N/A	0.0004	N/A	0.0003
1	-39.0000	0.0000	-5.3776	3.6763	-5.1273	62.5427	-4.9237	2.0609	-4.7371	54.4430	-4.3694	55.3776
2	-5.4047	1.6200	-4.6501	44.3416	-4.4092	98.5673	-4.1798	36.1250	-4.0135	94.6440	-3.6498	99.0755
3	-4.6887	38.2642	-4.2103	71.1186	-3.9785	120.8199	-3.7263	68.2664	-3.5779	119.9274	-3.2184	125.1315
4	-4.2598	65.2561	-3.8883	90.5453	-3.6654	137.2646	-3.3929	91.3872	-3.2603	138.0379	-2.9053	143.9591
5	-3.9484	84.7755	-3.6308	106.2758	-3.4166	150.1546	-3.1259	109.8324	-3.0076	152.5587	-2.6571	159.0977
6	-3.7012	100.4855	-3.4143	119.0901	-3.2085	160.5066	-2.9013	125.1536	-2.7958	164.7779	-2.4500	171.5655
7	-3.4945	113.1683	-3.2260	130.5549	-3.0283	169.6980	-2.7061	138.4617	-2.6123	175.2833	-2.2713	182.0185
8	-3.3156	124.5631	-3.0583	140.3643	-2.8685	177.9144	-2.5326	150.2274	-2.4495	184.6015	-2.1133	191.7890
9	-3.1569	134.1253	-2.9064	149.4332	-2.7242	185.5661	-2.3757	160.8632	-2.3025	193.2804	-1.9711	200.6188
10	-3.0137	143.0439	-2.7668	157.9262	-2.5922	192.3170	-2.2319	170.4131	-2.1678	200.9455	-1.8413	208.4175
11	-2.8825	151.3530	-2.6372	165.3245	-2.4699	198.4831	-2.0987	179.3917	-2.0432	207.9501	-1.7214	215.5523
12	-2.7610	158.5415	-2.5158	172.5529	-2.3556	204.1545	-1.9743	187.7855	-1.9267	214.8726	-1.6098	222.0284
13	-2.6474	165.5799	-2.4012	179.7904	-2.2480	209.7297	-1.8573	195.5814	-1.8171	220.8323	-1.5050	228.1915
14	-2.5404	172.5998	-2.2925	185.9953	-2.1460	214.9124	-1.7464	202.7651	-1.7132	227.1245	-1.4059	234.3374
15	-2.4388	178.7651	-2.1886	192.0357	-2.0488	219.9902	-1.6409	209.9732	-1.6143	232.4908	-1.3117	240.1001
16	-2.3420	184.5961	-2.0891	198.0763	-1.9558	224.6782	-1.5400	217.2039	-1.5195	238.2422	-1.2217	245.6021
17	-2.2491	190.4228	-1.9932	204.1170	-1.8662	229.2558	-1.4430	223.2020	-1.4285	242.9974	-1.1353	250.7028
18	-2.1597	196.2486	-1.9005	209.6202	-1.7797	233.8370	-1.3496	229.7697	-1.3405	248.2025	-1.0520	255.5693
19	-2.0733	201.8041	-1.8106	214.5129	-1.6959	238.0302	-1.2591	235.7879	-1.2554	252.8926	-0.9715	260.4248
20	-1.9894	206.8178	-1.7231	219.8796	-1.6145	242.1081	-1.1714	241.7668	-1.1727	258.1288	-0.8933	265.2695
21	-1.9078	211.6872	-1.6378	224.7576	-1.5351	246.1888	-1.0860	247.1592	-1.0921	262.7826	-0.8172	270.1038
22	-1.8281	216.7867	-1.5544	230.1190	-1.4574	250.2722	-1.0027	253.0974	-1.0133	266.8970	-0.7430	274.5122
23	-1.7501	221.4737	-1.4727	234.9815	-1.3813	253.9666	-0.9212	258.5198	-0.9362	271.5248	-0.6703	278.7252
24	-1.6735	226.1724	-1.3924	239.7848	-1.3065	257.9372	-0.8414	263.8816	-0.8604	275.6667	-0.5990	282.9302
25	-1.5982	230.8815	-1.3133	244.0331	-1.2329	261.6335	-0.7629	269.2550	-0.7859	280.2652	-0.5289	287.1280
26	-1.5239	235.6044	-1.2353	248.7698	-1.1603	265.2156	-0.6856	274.0347	-0.7125	284.3481	-0.4599	291.3176
27	-1.4506	240.3422	-1.1583	253.5519	-1.0885	269.1985	-0.6094	279.3587	-0.6399	288.4288	-0.3917	295.5003
28	-1.3779	245.0961	-1.0820	257.7860	-1.0173	272.8973	-0.5341	284.1489	-0.5681	292.5068	-0.3242	299.6762
29	-1.3059	249.2888	-1.0063	262.4947	-0.9468	276.4853	-0.4595	289.5006	-0.4969	296.5816	-0.2572	303.8456
30	-1.2343	254.0366	-0.9311	266.7233	-0.8766	280.0762	-0.3855	294.2949	-0.4261	300.6526	-0.1907	307.6074
31	-1.1629	258.3071	-0.8563	271.4088	-0.8067	283.2595	-0.3120	299.0441	-0.3557	304.7195	-0.1246	311.5656
32	-1.0918	262.5324	-0.7818	275.6361	-0.7369	286.7557	-0.2388	304.4434	-0.2856	308.7818	-0.0586	315.7168
33	-1.0207	266.7760	-0.7073	280.2961	-0.6673	290.3517	-0.1658	309.2336	-0.2155	312.8392	0.0073	319.4820
34	-0.9496	271.5366	-0.6329	284.5256	-0.5975	293.9504	-0.0929	314.0034	-0.1455	316.8913	0.0733	323.4025
35	-0.8782	275.9428	-0.5583	289.1570	-0.5275	297.5515	-0.0199	318.7791	-0.0753	320.9378	0.1394	327.5375
36	-0.8065	280.2470	-0.4835	293.3946	-0.4572	301.1549	0.0532	323.5618	-0.0048	324.9783	0.2058	331.6676
37	-0.7344	285.0544	-0.4083	297.9972	-0.3864	304.7602	0.1267	328.3843	0.0660	329.0128	0.2726	335.7930
38	-0.6616	289.5403	-0.3326	302.7104	-0.3150	308.3671	0.2006	333.8139	0.1374	333.0408	0.3400	339.5833
39	-0.5882	293.9108	-0.2562	306.9672	-0.2429	311.9755	0.2751	338.6132	0.2094	337.0622	0.4080	343.4305
40	-0.5138	298.3046	-0.1791	311.5254	-0.1700	315.5851	0.3503	343.4177	0.2821	341.0768	0.4769	347.8492
41	-0.4384	303.2284	-0.1010	316.2283	-0.0960	319.6538	0.4264	348.3252	0.3558	345.2935	0.5468	352.2515
42	-0.3617	307.7846	-0.0217	320.9292	-0.0208	323.3174	0.5036	353.8268	0.4307	349.6544	0.6178	356.3581
43	-0.2837	312.7891	0.0588	326.0325	0.0558	326.9298	0.5821	359.2009	0.5068	353.8599	0.6901	360.7264
44	-0.2039	317.9246	0.1409	330.9280	0.1340	331.0186	0.6620	364.1779	0.5844	358.4156	0.7640	365.1603
45	-0.1223	323.0891	0.2247	336.0059	0.2140	335.1474	0.7436	369.6954	0.6637	362.9630	0.8396	369.4941
46	-0.0386	328.2834	0.3105	340.9278	0.2961	339.2754	0.8272	375.2175	0.7451	367.7086	0.9173	374.1741
47	0.0476	333.5082	0.3987	345.9865	0.3806	343.4049	0.9131	380.9583	0.8287	372.6029	0.9973	379.0585
48	0.1366	338.8294	0.4895	351.6246	0.4678	348.0325	1.0016	387.1805	0.9148	377.3238	1.0800	384.1283
49	0.2288	344.7765	0.5833	357.1833	0.5582	352.6740	1.0931	393.4073	1.0040	382.4028	1.1657	388.9786
50	0.3247	350.7614	0.6807	362.8130	0.6521	357.3132	1.1881	399.6380	1.0967	387.6587	1.2549	394.3951
51	0.4250	356.9810	0.7822	369.0334	0.7503	361.9628	1.2871	406.1769	1.1934	393.2818	1.3482	400.2416
52	0.5302	363.7093	0.8884	375.5460	0.8533	367.6136	1.3909	413.1100	1.2948	399.0668	1.4463	406.0862
53	0.6412	370.4775	1.0003	382.0751	0.9619	372.7718	1.5002	420.3973	1.4017	405.2330	1.5500	412.1594
54	0.7592	377.6558	1.1188	389.2100	1.0774	378.4607	1.6162	428.0335	1.5152	411.5397	1.6603	419.0806
55	0.8855	385.6222	1.2453	396.9758	1.2009	385.1289	1.7401	436.0729	1.6366	418.3854	1.7786	425.6865
56	1.0220	394.3865	1.3817	405.0737	1.3343	391.8175	1.8738	445.2601	1.7677	425.8952	1.9067	433.4411
57	1.1711	403.3879	1.5302	413.8163	1.4800	399.0320	2.0196	454.9943	1.9108	434.3702	2.0469	442.2426
58	1.3361	413.7675	1.6943	423.5296	1.6413	407.2561	2.1810	465.6908	2.0694	443.4850	2.2026	451.1860

	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
Raw Score	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**
59	1.5220	425.2827	1.8787	434.5613	1.8230	416.4815	2.3628	477.8353	2.2482	453.6744	2.3787	461.8764
60	1.7365	439.0008	2.0912	447.3044	2.0329	426.7818	2.5725	491.9620	2.4549	465.1600	2.5827	474.3280
61	1.9924	455.1738	2.3443	462.8575	2.2835	439.6042	2.8227	508.8213	2.7020	479.4009	2.8272	488.6182
62	2.3134	475.7021	2.6617	481.9787	2.5985	455.5237	3.1375	529.7707	3.0133	497.1501	3.1362	507.6713
63	2.7528	503.2523	3.0968	508.4709	3.0313	477.6422	3.5697	558.7546	3.4420	521.8778	3.5626	532.7168
64	3.4808	549.6945	3.8188	552.6560	3.7511	514.2673	4.2893	607.3816	4.1579	562.5858	4.2763	575.7556
65	N/A	632.1195	N/A	633.7995	N/A	575.5796	N/A	691.2495	N/A	630.3295	N/A	648.9995

Table 3.A.10: 2005 Reference Form Conversions for General Math, Algebra I, Geometry, Algebra II, and Summative High School Math from 2002 Administration

	General Mathematics		Algebra I		Geometry		Algebra II		Summative High School Math	
Raw Score	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**
0	N/A	0.0	N/A	-68.251	N/A	-45.0	N/A	-54.8300	N/A	-87.80
1	-4.28	53.2	-4.29	17.271	-4.42	28.8	-4.41	26.0425	-4.67	-11.54
2	-3.56	96.4	-3.57	67.743	-3.70	72.0	-3.70	72.7250	-3.95	33.10
3	-3.13	122.2	-3.14	97.886	-3.27	97.8	-3.27	100.9975	-3.52	59.76
4	-2.82	140.8	-2.83	119.617	-2.95	117.0	-2.95	122.0375	-3.20	79.60
5	-2.57	155.8	-2.58	137.142	-2.70	132.0	-2.71	137.8175	-2.95	95.10
6	-2.36	168.4	-2.37	151.863	-2.49	144.6	-2.50	151.6250	-2.73	108.74
7	-2.19	178.6	-2.19	164.481	-2.30	156.0	-2.32	163.4600	-2.55	119.90
8	-2.03	188.2	-2.03	175.697	-2.14	165.6	-2.16	173.9800	-2.39	129.82
9	-1.88	197.2	-1.89	185.511	-1.99	174.6	-2.02	183.1850	-2.24	139.12
10	-1.75	205.0	-1.76	194.624	-1.86	182.4	-1.89	191.7325	-2.10	147.80
11	-1.63	212.2	-1.64	203.036	-1.73	190.2	-1.77	199.6225	-1.98	155.24
12	-1.52	218.8	-1.52	211.448	-1.61	197.4	-1.65	207.5125	-1.86	162.68
13	-1.42	224.8	-1.42	218.458	-1.50	204.0	-1.55	214.0875	-1.75	169.50
14	-1.32	230.8	-1.31	226.169	-1.40	210.0	-1.45	220.6625	-1.64	176.32
15	-1.22	236.8	-1.22	232.478	-1.30	216.0	-1.35	227.2375	-1.54	182.52
16	-1.13	242.2	-1.12	239.488	-1.20	222.0	-1.26	233.1550	-1.44	188.72
17	-1.04	247.6	-1.03	245.797	-1.11	227.4	-1.17	239.0725	-1.35	194.30
18	-0.96	252.4	-0.95	251.405	-1.02	232.8	-1.09	244.3325	-1.26	199.88
19	-0.88	257.2	-0.87	257.013	-0.94	237.6	-1.00	250.2500	-1.17	205.46
20	-0.80	262.0	-0.78	263.322	-0.85	243.0	-0.92	255.5100	-1.09	210.42
21	-0.72	266.8	-0.70	268.930	-0.77	247.8	-0.85	260.1125	-1.00	216.00
22	-0.64	271.6	-0.63	273.837	-0.69	252.6	-0.77	265.3725	-0.92	220.96
23	-0.57	275.8	-0.55	279.445	-0.61	257.4	-0.69	270.6325	-0.84	225.92
24	-0.50	280.0	-0.48	284.352	-0.53	262.2	-0.62	275.2350	-0.77	230.26
25	-0.43	284.2	-0.40	289.960	-0.46	266.4	-0.55	279.8375	-0.69	235.22
26	-0.36	288.4	-0.33	294.867	-0.38	271.2	-0.48	284.4400	-0.61	240.18
27	-0.29	292.6	-0.26	299.774	-0.31	275.4	-0.41	289.0425	-0.54	244.52
28	-0.22	296.8	-0.19	304.681	-0.23	280.2	-0.34	293.6450	-0.46	249.48
29	-0.15	301.0	-0.12	309.588	-0.16	284.4	-0.27	298.2475	-0.39	253.82
30	-0.08	305.2	-0.05	314.495	-0.09	288.6	-0.20	302.8500	-0.31	258.78
31	-0.02	308.8	0.02	319.402	-0.01	293.4	-0.13	307.4525	-0.24	263.12
32	0.05	313.0	0.09	324.309	0.06	297.6	-0.07	311.3975	-0.17	267.46
33	0.12	317.2	0.16	329.216	0.13	301.8	0.00	316.0000	-0.09	272.42
34	0.18	320.8	0.23	334.123	0.20	306.0	0.07	320.6025	-0.02	276.76
35	0.25	325.0	0.30	339.030	0.28	310.8	0.14	325.2050	0.05	281.10
36	0.32	329.2	0.37	343.937	0.35	315.0	0.21	329.8075	0.13	286.06
37	0.39	333.4	0.44	348.844	0.42	319.2	0.28	334.4100	0.20	290.40
38	0.46	337.6	0.51	353.751	0.50	324.0	0.35	339.0125	0.28	295.36
39	0.52	341.2	0.58	358.658	0.57	328.2	0.42	343.6150	0.35	299.70
40	0.59	345.4	0.66	364.266	0.65	333.0	0.49	348.2175	0.43	304.66
41	0.67	350.2	0.73	369.173	0.72	337.2	0.56	352.8200	0.51	309.62
42	0.74	354.4	0.80	374.080	0.80	342.0	0.63	357.4225	0.59	314.58
43	0.81	358.6	0.88	379.688	0.88	346.8	0.71	362.6825	0.67	319.54
44	0.89	363.4	0.96	385.296	0.96	351.6	0.78	367.2850	0.75	324.50
45	0.96	367.6	1.03	390.203	1.04	356.4	0.86	372.5450	0.83	329.46
46	1.04	372.4	1.12	396.512	1.13	361.8	0.94	377.8050	0.92	335.04
47	1.12	377.2	1.20	402.120	1.22	367.2	1.02	383.0650	1.01	340.62
48	1.21	382.6	1.29	408.429	1.31	372.6	1.11	388.9825	1.10	346.20
49	1.29	387.4	1.37	414.037	1.40	378.0	1.19	394.2425	1.19	351.78
50	1.38	392.8	1.47	421.047	1.50	384.0	1.29	400.8175	1.29	357.98
51	1.48	398.8	1.56	427.356	1.60	390.0	1.38	406.7350	1.39	364.18
52	1.58	404.8	1.66	434.366	1.70	396.0	1.48	413.3100	1.50	371.00
53	1.68	410.8	1.77	442.077	1.81	402.6	1.59	420.5425	1.61	377.82
54	1.80	418.0	1.89	450.489	1.93	409.8	1.70	427.7750	1.73	385.26
55	1.91	424.6	2.01	458.901	2.06	417.6	1.82	435.6650	1.86	393.32

	General Mathematics		Algebra I		Geometry		Algebra II		Summative High School Math	
Raw Score	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**
56	2.04	432.4	2.14	468.014	2.19	425.4	1.95	444.2125	2.00	402.00
57	2.19	441.4	2.28	477.828	2.34	434.4	2.09	453.4175	2.15	411.30
58	2.34	450.4	2.44	489.044	2.51	444.6	2.25	463.9375	2.31	421.22
59	2.52	461.2	2.62	501.662	2.69	455.4	2.43	475.7725	2.50	433.00
60	2.73	473.8	2.83	516.383	2.90	468.0	2.63	488.9225	2.72	446.64
61	2.97	488.2	3.07	533.207	3.16	483.6	2.88	505.3600	2.97	462.14
62	3.29	507.4	3.39	555.639	3.48	502.8	3.19	525.7425	3.29	481.98
63	3.71	532.6	3.82	585.782	3.91	528.6	3.62	554.0150	3.73	509.26
64	4.43	575.8	4.53	635.553	4.64	572.4	4.34	601.3550	4.46	554.52
65	N/A	649.0	N/A	721.075	N/A	645.6	N/A	681.5700	N/A	630.78

Table 3.A.11: 2005 Reference Form Conversions for Integrated Mathematics 1, 2, and 3 from 2003 Administration

	Integrated Mathematics 1		Integrated Mathematics 2		Integrated Mathematics 3	
Raw Score	Theta	Scale Score	Theta	Scale Score	Theta	Scale Score
0	N/A	-77.6994	N/A	-60.2795	N/A	-100.7244
1	-4.0824	18.0912	-4.4975	43.8782	-4.5718	-14.0301
2	-3.3663	70.3447	-3.7783	95.9431	-3.8572	40.0545
3	-2.9376	101.2543	-3.3465	125.4828	-3.4300	74.3628
4	-2.6264	123.7295	-3.0323	146.6916	-3.1203	98.8866
5	-2.3796	141.6978	-2.7825	163.7435	-2.8749	117.9066
6	-2.1735	156.3637	-2.5734	177.8590	-2.6701	133.6062
7	-1.9953	169.0150	-2.3923	189.9340	-2.4932	147.4608
8	-1.8375	180.0722	-2.2316	200.7563	-2.3367	159.5550
9	-1.6952	190.1452	-2.0865	210.2434	-2.1957	170.3120
10	-1.5651	199.7964	-1.9537	218.8080	-2.0668	180.3908
11	-1.4447	208.0918	-1.8306	227.2617	-1.9476	189.4696
12	-1.3325	216.6945	-1.7157	234.9862	-1.8365	197.7053
13	-1.2268	223.9365	-1.6074	242.3182	-1.7320	205.9625
14	-1.1268	231.3494	-1.5048	248.8296	-1.6331	213.7607
15	-1.0316	237.8892	-1.4070	255.2620	-1.5389	220.7700
16	-0.9405	244.4930	-1.3133	261.6174	-1.4488	227.9302
17	-0.8529	251.1019	-1.2232	267.8988	-1.3623	234.1763
18	-0.7684	256.9728	-1.1363	273.4470	-1.2787	240.8432
19	-0.6866	262.8710	-1.0520	278.8158	-1.1978	246.9311
20	-0.6071	268.9210	-0.9701	284.1236	-1.1193	253.0298
21	-0.5297	274.2541	-0.8903	289.3718	-1.0428	259.0101
22	-0.4540	280.1819	-0.8122	294.5615	-0.9680	264.3660
23	-0.3799	285.3782	-0.7358	299.6941	-0.8947	269.7313
24	-0.3071	290.5403	-0.6607	304.7719	-0.8228	275.1044
25	-0.2355	295.6705	-0.5868	309.7929	-0.7520	280.4860
26	-0.1649	300.7689	-0.5139	314.7605	-0.6822	285.8757
27	-0.0951	305.8354	-0.4419	319.2133	-0.6132	291.2730
28	-0.0260	310.8702	-0.3706	323.8588	-0.5449	296.6776
29	0.0426	315.8734	-0.2999	328.6711	-0.4771	302.0051
30	0.1107	320.8453	-0.2296	333.4335	-0.4098	306.7327
31	0.1785	325.7860	-0.1596	338.1481	-0.3427	312.0744
32	0.2462	330.6956	-0.0898	342.8116	-0.2758	316.8139
33	0.3138	335.5742	-0.0201	347.4287	-0.2089	322.1654
34	0.3815	340.6538	0.0497	351.9994	-0.1420	326.9196
35	0.4493	345.9393	0.1196	356.5238	-0.0748	332.3687
36	0.5175	350.7260	0.1899	361.0027	-0.0074	337.7270
37	0.5860	355.4823	0.2605	365.7335	0.0605	342.5086
38	0.6552	360.3666	0.3317	370.5067	0.1289	347.8672
39	0.7250	365.7334	0.4036	375.0376	0.1981	352.6702
40	0.7957	370.9700	0.4764	379.9553	0.2681	358.1464
41	0.8674	375.7216	0.5501	384.8241	0.3390	363.6277
42	0.9402	381.6272	0.6250	389.6463	0.4112	369.1139
43	1.0143	386.8552	0.7012	394.9874	0.4847	374.6079
44	1.0901	392.0528	0.7790	400.3048	0.5598	380.2642
45	1.1676	397.7786	0.8586	405.5695	0.6366	386.3853
46	1.2472	403.5467	0.9402	411.0647	0.7155	392.0770
47	1.3291	409.2785	1.0242	416.7991	0.7967	398.3818
48	1.4136	415.3461	1.1108	422.4763	0.8806	404.9032
49	1.5012	421.9325	1.2006	428.0961	0.9676	411.7906
50	1.5924	428.5711	1.2939	434.6649	1.0580	418.3610

	Integrated Mathematics 1		Integrated Mathematics 2		Integrated Mathematics 3	
Raw Score	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**
51	1.6876	435.0651	1.3913	441.2740	1.1526	425.7512
52	1.7877	442.4547	1.4935	448.0535	1.2520	433.4145
53	1.8933	449.7943	1.6013	455.1646	1.3569	441.1678
54	2.0056	458.2478	1.7158	462.6389	1.4686	449.9367
55	2.1258	466.6932	1.8384	470.9931	1.5882	459.0699
56	2.2560	476.2415	1.9707	479.9971	1.7176	469.0541
57	2.3982	486.6405	2.1153	489.7804	1.8591	479.8988
58	2.5559	497.7955	2.2754	500.5143	2.0161	492.0518
59	2.7340	510.3582	2.4559	513.1084	2.1935	505.4715
60	2.9401	524.9404	2.6644	527.4836	2.3988	521.3104
61	3.1867	543.0688	2.9136	544.3242	2.6447	540.6614
62	3.4976	565.8406	3.2271	565.2819	2.9549	564.7865
63	3.9261	598.1901	3.6581	598.0608	3.3826	598.2234
64	4.6417	645.8519	4.3766	642.8383	4.0976	653.9256
65	N/A	714.6994	N/A	699.9595	N/A	753.3244

Table 3.A.12: 2005 Reference Form Conversion for Grade 5 Science from 2004 Administration

Grade 5 Science					
Raw Score	**Theta**	**Scale Score**	**Raw score**	**Theta**	**Scale Score**
0	N/A	47.3183	**31**	-0.1131	329.1465
1	-4.4314	80.1096	**32**	-0.0417	333.2641
2	-3.7132	121.5283	**33**	0.0300	337.3991
3	-3.2825	146.3668	**34**	0.1022	341.5629
4	-2.9695	164.4175	**35**	0.1750	345.7612
5	-2.7210	178.7486	**36**	0.2485	350.0000
6	-2.5132	190.7324	**37**	0.3230	354.2964
7	-2.3334	201.1015	**38**	0.3987	358.6621
8	-2.1741	210.2884	**39**	0.4757	363.1027
9	-2.0304	218.5755	**40**	0.5543	367.6355
10	-1.8989	226.1592	**41**	0.6348	372.2780
11	-1.7772	233.1776	**42**	0.7175	377.0473
12	-1.6635	239.7347	**43**	0.8028	381.9666
13	-1.5565	245.9054	**44**	0.8909	387.0473
14	-1.4551	251.7532	**45**	0.9825	392.3299
15	-1.3585	257.3241	**46**	1.0780	397.8374
16	-1.2660	262.6586	**47**	1.1782	403.6159
17	-1.1769	267.7970	**48**	1.2839	409.7116
18	-1.0909	272.7566	**49**	1.3962	416.1880
19	-1.0074	277.5721	**50**	1.5163	423.1142
20	-0.9263	282.2491	**51**	1.6462	430.6055
21	-0.8470	286.8224	**52**	1.7880	438.7832
22	-0.7695	291.2918	**53**	1.9453	447.8547
23	-0.6934	295.6805	**54**	2.1229	458.0969
24	-0.6185	300.0000	**55**	2.3284	469.9481
25	-0.5447	304.2561	**56**	2.5743	484.1292
26	-0.4716	308.4717	**57**	2.8845	502.0185
27	-0.3993	312.6413	**58**	3.3120	526.6724
28	-0.3274	316.7878	**59**	4.0269	567.9008
29	-0.2558	320.9170	**60**	N/A	624.0196
30	-0.1845	325.0288			

Table 3.A.13: 2005 Reference Form Conversions for Biology, Chemistry, Earth Science, and Physics from 2002 Administration

	Biology		Chemistry		Earth Science		Physics	
Raw Score	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**
0	N/A	0.0	N/A	51.99	N/A	51.01	N/A	51.4125
1	-4.16	113.0	-4.27	111.77	-4.29	110.79	-4.31	110.8875
2	-3.44	149.0	-3.55	147.05	-3.58	145.58	-3.59	145.9875
3	-3.01	170.5	-3.13	167.63	-3.15	166.65	-3.16	166.9500
4	-2.69	186.5	-2.81	183.31	-2.84	181.84	-2.85	182.0625
5	-2.44	199.0	-2.57	195.07	-2.59	194.09	-2.60	194.2500
6	-2.24	209.0	-2.36	205.36	-2.38	204.38	-2.39	204.4875
7	-2.06	218.0	-2.18	214.18	-2.21	212.71	-2.21	213.2625
8	-1.90	226.0	-2.03	221.53	-2.05	220.55	-2.06	220.5750
9	-1.75	233.5	-1.88	228.88	-1.91	227.41	-1.91	227.8875
10	-1.62	240.0	-1.75	235.25	-1.78	233.78	-1.78	234.2250
11	-1.50	246.0	-1.63	241.13	-1.66	239.66	-1.66	240.0750
12	-1.38	252.0	-1.52	246.52	-1.54	245.54	-1.55	245.4375
13	-1.28	257.0	-1.41	251.91	-1.44	250.44	-1.44	250.8000
14	-1.18	262.0	-1.31	256.81	-1.34	255.34	-1.34	255.6750
15	-1.08	267.0	-1.22	261.22	-1.24	260.24	-1.24	260.5500
16	-0.99	271.5	-1.13	265.63	-1.15	264.65	-1.15	264.9375
17	-0.90	276.0	-1.04	270.04	-1.07	268.57	-1.06	269.3250
18	-0.81	280.5	-0.95	274.45	-0.98	272.98	-0.97	273.7125
19	-0.73	284.5	-0.87	278.37	-0.90	276.90	-0.89	277.6125
20	-0.65	288.5	-0.79	282.29	-0.82	280.82	-0.81	281.5125
21	-0.57	292.5	-0.71	286.21	-0.74	284.74	-0.73	285.4125
22	-0.49	296.5	-0.63	290.13	-0.67	288.17	-0.65	289.3125
23	-0.42	300.0	-0.56	293.56	-0.59	292.09	-0.57	293.2125
24	-0.34	304.0	-0.48	297.48	-0.52	295.52	-0.50	296.6250
25	-0.27	307.5	-0.41	300.91	-0.45	298.95	-0.42	300.5250
26	-0.20	311.0	-0.34	304.34	-0.37	302.87	-0.35	303.9375
27	-0.12	315.0	-0.26	308.26	-0.30	306.30	-0.28	307.3500
28	-0.05	318.5	-0.19	311.69	-0.23	309.73	-0.20	311.2500
29	0.02	322.0	-0.12	315.12	-0.16	313.16	-0.13	314.6625
30	0.09	325.5	-0.05	318.55	-0.09	316.59	-0.06	318.0750
31	0.16	329.0	0.02	321.98	-0.02	320.02	0.01	321.4875
32	0.23	332.5	0.09	325.41	0.05	323.45	0.08	324.9000
33	0.30	336.0	0.16	328.84	0.12	326.88	0.15	328.3125
34	0.37	339.5	0.24	332.76	0.19	330.31	0.23	332.2125
35	0.45	343.5	0.31	336.19	0.26	333.74	0.30	335.6250
36	0.52	347.0	0.38	339.62	0.33	337.17	0.37	339.0375
37	0.59	350.5	0.46	343.54	0.40	340.60	0.45	342.9375
38	0.67	354.5	0.53	346.97	0.48	344.52	0.52	346.3500
39	0.74	358.0	0.61	350.89	0.55	347.95	0.60	350.2500
40	0.82	362.0	0.69	354.81	0.63	351.87	0.68	354.1500
41	0.90	366.0	0.77	358.73	0.71	355.79	0.76	358.0500
42	0.98	370.0	0.85	362.65	0.79	359.71	0.84	361.9500
43	1.07	374.5	0.94	367.06	0.87	363.63	0.93	366.3375
44	1.15	378.5	1.02	370.98	0.96	368.04	1.02	370.7250
45	1.24	383.0	1.12	375.88	1.05	372.45	1.11	375.1125
46	1.34	388.0	1.21	380.29	1.14	376.86	1.20	379.5000
47	1.44	393.0	1.31	385.19	1.24	381.76	1.30	384.3750
48	1.54	398.0	1.42	390.58	1.34	386.66	1.41	389.7375
49	1.65	403.5	1.53	395.97	1.45	392.05	1.52	395.1000
50	1.77	409.5	1.65	401.85	1.57	397.93	1.64	400.9500

	Biology		Chemistry		Earth Science		Physics	
Raw Score	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**	**Theta**	**Scale Score**
51	1.90	416.0	1.78	408.22	1.70	404.30	1.77	407.2875
52	2.04	423.0	1.92	415.08	1.84	411.16	1.91	414.1125
53	2.20	431.0	2.08	422.92	1.99	418.51	2.07	421.9125
54	2.37	439.5	2.25	431.25	2.17	427.33	2.25	430.6875
55	2.58	450.0	2.46	441.54	2.37	437.13	2.45	440.4375
56	2.82	462.0	2.70	453.30	2.62	449.38	2.70	452.6250
57	3.13	477.5	3.01	468.49	2.92	464.08	3.01	467.7375
58	3.56	499.0	3.44	489.56	3.35	485.15	3.43	488.2125
59	4.27	534.5	4.16	524.84	4.06	519.94	4.15	523.3125
60	N/A	595.5	N/A	584.62	N/A	579.72	N/A	582.7875

Appendix 3.B — New Form Conversions Tables

Table 3.B.1: 2005 New Form Conversions for English-Language Arts Grades 2 and 3

Grade 2					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	8.0009	150	**41**	331.8140	332
1	76.8953	150	**42**	335.4705	335
2	115.0002	150	**43**	339.2481	339
3	138.1866	150	**44**	343.1168	343
4	154.1661	154	**45**	346.9648	347
5	166.8494	167	**46**	350.8024	351
6	177.6364	178	**47**	354.8985	355
7	186.9032	187	**48**	359.2248	359
8	194.9293	195	**49**	363.5842	364
9	202.1562	202	**50**	368.2168	368
10	208.8065	209	**51**	372.9987	373
11	214.9865	215	**52**	377.8449	378
12	220.8253	221	**53**	383.0746	383
13	226.2465	226	**54**	388.8134	389
14	231.2836	231	**55**	394.9576	395
15	236.1701	236	**56**	401.2990	401
16	240.7701	241	**57**	408.4628	408
17	245.4499	245	**58**	416.2866	416
18	249.5108	250	**59**	425.5110	426
19	253.6755	254	**60**	435.9326	436
20	257.8570	258	**61**	448.5811	449
21	261.5450	262	**62**	464.8489	465
22	265.5849	266	**63**	488.0342	488
23	269.3549	269	**64**	524.1493	524
24	273.0019	273	**65**	578.9992	600
25	276.6258	277			
26	280.2337	280			
27	283.8081	284			
28	287.0243	287			
29	290.4657	290			
30	294.0121	294			
31	297.5426	298			
32	300.7442	301			
33	304.0561	304			
34	307.5387	308			
35	311.0052	311			
36	314.4554	314			
37	317.8893	318			
38	321.3066	321			
39	324.7073	325			
40	328.1995	328			

Grade 3					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	-12.3991	150	**41**	324.0688	324
1	54.2600	150	**42**	328.2156	328
2	93.2002	150	**43**	332.1181	332
3	116.7986	150	**44**	336.3361	336
4	133.8522	150	**45**	340.5759	341
5	147.2540	150	**46**	344.6740	345
6	158.4686	158	**47**	349.2707	349
7	167.9618	168	**48**	354.0493	354
8	176.4419	176	**49**	358.8225	359
9	184.2324	184	**50**	363.8101	364
10	191.3600	191	**51**	368.8030	369
11	197.8451	198	**52**	374.1605	374
12	203.8893	204	**53**	380.1150	380
13	209.6370	210	**54**	386.0671	386
14	215.0987	215	**55**	392.5663	393
15	220.5482	221	**56**	399.5021	400
16	225.5472	226	**57**	407.3073	407
17	230.3863	230	**58**	415.8894	416
18	234.6988	235	**59**	425.4203	425
19	239.1805	239	**60**	436.6666	437
20	243.5590	244	**61**	450.2548	450
21	247.6182	248	**62**	467.2307	467
22	251.9400	252	**63**	490.6136	491
23	255.7859	256	**64**	528.9486	529
24	260.0286	260	**65**	594.9791	600
25	263.7710	264			
26	267.5500	268			
27	271.6129	272			
28	275.5777	276			
29	279.2737	279			
30	282.6018	283			
31	286.3881	286			
32	290.1797	290			
33	293.9758	294			
34	297.7757	298			
35	301.4462	301			
36	304.8540	305			
37	308.6608	309			
38	312.4682	312			
39	316.2754	316			
40	320.0867	320			

Table 3.B.2: 2005 New Form Conversions for English-Language Arts Grade 4 (with and without essay)

Grade 4					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	0.0014	150	**41**	320.3448	320
1	50.3065	150	**42**	323.4049	323
2	95.0516	150	**43**	326.1008	326
3	122.5536	150	**44**	329.0636	329
4	141.5338	150	**45**	331.9854	332
5	155.9528	156	**46**	335.1497	335
6	168.1531	168	**47**	338.1835	338
7	178.6051	179	**48**	340.9666	341
8	187.7203	188	**49**	344.1011	344
9	195.6919	196	**50**	347.2214	347
10	202.8399	203	**51**	350.3266	350
11	209.3323	209	**52**	353.4167	353
12	215.3693	215	**53**	356.4937	356
13	221.0784	221	**54**	359.6963	360
14	226.2708	226	**55**	363.0181	363
15	231.3686	231	**56**	366.3387	366
16	236.1653	236	**57**	369.6788	370
17	240.6792	241	**58**	373.0208	373
18	244.8630	245	**59**	376.5741	377
19	248.8970	249	**60**	380.2955	380
20	252.8524	253	**61**	384.0322	384
21	256.5850	257	**62**	387.8509	388
22	260.3358	260	**63**	391.8175	392
23	264.0665	264	**64**	395.8290	396
24	267.5922	268	**65**	400.1257	400
25	271.0137	271	**66**	404.5206	405
26	274.3337	274	**67**	408.9901	409
27	277.8033	278	**68**	413.6609	414
28	281.2232	281	**69**	418.5152	419
29	284.4323	284	**70**	423.6889	424
30	287.3592	287	**71**	429.0520	429
31	290.3853	290	**72**	434.6913	435
32	293.6030	294	**73**	440.8992	441
33	296.5873	297	**74**	447.6584	448
34	299.6113	300	**75**	454.8354	455
35	302.7257	303	**76**	462.6823	463
36	305.6273	306	**77**	471.8528	472
37	308.4825	308	**78**	482.8479	483
38	311.5371	312	**79**	496.7467	497
39	314.3007	314	**80**	515.4466	515
40	317.4739	317	**81**	542.4092	542
			82	585.9758	586
			83	643.4993	600

Grade 4 (without essay)					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	0.0014	150	**41**	331.1958	331
1	83.4782	150	**42**	334.3208	334
2	123.3066	150	**43**	337.4325	337
3	146.4864	150	**44**	340.5303	341
4	162.6769	163	**45**	343.6135	344
5	175.2998	175	**46**	346.6815	347
6	185.8053	186	**47**	349.9392	350
7	194.7743	195	**48**	353.2668	353
8	202.5775	203	**49**	356.3713	356
9	209.7039	210	**50**	359.7498	360
10	216.2780	216	**51**	363.1574	363
11	222.1548	222	**52**	366.4604	366
12	227.7714	228	**53**	370.1881	370
13	233.1136	233	**54**	373.9344	374
14	238.0877	238	**55**	377.5047	378
15	242.6016	243	**56**	381.3615	381
16	247.0916	247	**57**	385.3719	385
17	251.5125	252	**58**	389.3507	389
18	255.5722	256	**59**	393.5431	394
19	259.8206	260	**60**	397.9563	398
20	263.6304	264	**61**	402.7154	403
21	267.0830	267	**62**	407.6378	408
22	270.9297	271	**63**	412.9345	413
23	274.4668	274	**64**	418.3673	418
24	277.7763	278	**65**	424.1966	424
25	281.4519	281	**66**	430.6058	431
26	284.6938	285	**67**	437.8714	438
27	287.9342	288	**68**	445.7641	446
28	291.1730	291	**69**	454.5599	455
29	294.4078	294	**70**	464.5601	465
30	297.6380	298	**71**	477.0144	477
31	300.8465	301	**72**	492.9683	493
32	303.9114	304	**73**	514.8450	515
33	306.7981	307	**74**	550.2370	550
34	310.0050	310	**75**	607.4990	600
35	313.1751	313			
36	316.1774	316			
37	319.0766	319			
38	322.2476	322			
39	325.2635	325			
40	328.0582	328			

Table 3.B.3: 2005 New Form Conversions for English-Language Arts Grades 5 and 6

Grade 5					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	25.0010	150	**41**	321.6073	322
1	70.9970	150	**42**	324.7698	325
2	106.4703	150	**43**	327.9643	328
3	131.5614	150	**44**	331.1592	331
4	147.9491	150	**45**	334.3559	334
5	160.7174	161	**46**	337.5534	338
6	171.4824	171	**47**	340.7512	341
7	180.7775	181	**48**	343.9495	344
8	189.1743	189	**49**	347.2511	347
9	196.4955	196	**50**	350.8427	351
10	203.0744	203	**51**	354.1379	354
11	209.3397	209	**52**	357.6200	358
12	215.1918	215	**53**	361.1521	361
13	220.5709	221	**54**	364.9363	365
14	225.7033	226	**55**	368.7609	369
15	230.6834	231	**56**	372.5823	373
16	235.2245	235	**57**	376.3999	376
17	239.5239	240	**58**	380.5996	381
18	243.9753	244	**59**	385.0257	385
19	248.1286	248	**60**	389.4653	389
20	252.0051	252	**61**	393.9393	394
21	255.7933	256	**62**	398.7232	399
22	259.5200	260	**63**	403.9250	404
23	263.2339	263	**64**	409.4775	409
24	266.9392	267	**65**	415.4609	415
25	270.3708	270	**66**	421.7102	422
26	273.9678	274	**67**	429.0787	429
27	277.1954	277	**68**	436.7735	437
28	280.6286	281	**69**	445.5060	446
29	284.1292	284	**70**	455.7640	456
30	287.3122	287	**71**	468.0690	468
31	290.4339	290	**72**	484.0058	484
32	293.5660	294	**73**	506.6091	507
33	296.7068	297	**74**	544.0273	544
34	299.8562	300	**75**	611.4990	600
35	303.0135	303			
36	306.1777	306			
37	309.3482	309			
38	312.5242	313			
39	315.7049	316			
40	318.8894	319			

Grade 6					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	0.0011	150	**41**	321.2733	321
1	76.5476	150	**42**	324.2296	324
2	115.5249	150	**43**	327.1747	327
3	137.9162	150	**44**	330.3834	330
4	153.5272	154	**45**	333.5307	334
5	166.4347	166	**46**	336.5749	337
6	176.6837	177	**47**	339.7192	340
7	185.8434	186	**48**	342.8953	343
8	193.6452	194	**49**	346.1076	346
9	200.6652	201	**50**	349.1891	349
10	207.1516	207	**51**	352.6043	353
11	213.2026	213	**52**	356.0697	356
12	218.7576	219	**53**	359.7247	360
13	224.1717	224	**54**	363.3493	363
14	228.9784	229	**55**	367.0599	367
15	233.7526	234	**56**	370.5721	371
16	238.3792	238	**57**	374.5036	375
17	242.4256	242	**58**	378.8117	379
18	246.4478	246	**59**	382.8473	383
19	250.4462	250	**60**	387.4049	387
20	254.4217	254	**61**	392.1315	392
21	257.9492	258	**62**	396.7740	397
22	261.6516	262	**63**	401.9717	402
23	265.2741	265	**64**	407.6608	408
24	268.7125	269	**65**	413.6290	414
25	271.9804	272	**66**	419.9708	420
26	275.3839	275	**67**	427.1326	427
27	278.7978	279	**68**	435.0216	435
28	282.0435	282	**69**	443.8084	444
29	285.1933	285	**70**	454.1272	454
30	288.3264	288	**71**	466.8324	467
31	291.4120	291	**72**	483.1422	483
32	294.3406	294	**73**	506.8422	507
33	297.1208	297	**74**	544.1303	544
34	300.1913	300	**75**	602.2691	600
35	303.2468	303			
36	306.2875	306			
37	309.3128	309			
38	312.3237	312			
39	315.3195	315			
40	318.3028	318			

Table 3.B.4: 2005 New Form Conversions for English-Language Arts Grade 7 (with and without essay)

Grade 7					
Raw Score	Scale Score	Reported Score	Raw Score	Scale Score	Reported Score
0	-40.1188	150	**41**	310.1489	310
1	32.2411	150	**42**	313.4468	313
2	75.1652	150	**43**	316.7260	317
3	101.3303	150	**44**	319.9868	320
4	120.2516	150	**45**	323.2293	323
5	135.6829	150	**46**	326.4538	326
6	147.7606	150	**47**	329.6604	330
7	158.1573	158	**48**	332.8493	333
8	167.6649	168	**49**	336.0206	336
9	175.8052	176	**50**	339.1747	339
10	183.1905	183	**51**	342.7581	343
11	190.2721	190	**52**	345.9864	346
12	196.4543	196	**53**	349.6101	350
13	202.1804	202	**54**	352.8540	353
14	207.8851	208	**55**	356.4917	356
15	213.0422	213	**56**	360.1593	360
16	218.1771	218	**57**	363.8082	364
17	222.8320	223	**58**	367.4385	367
18	227.5254	228	**59**	371.0501	371
19	231.9671	232	**60**	375.0155	375
20	236.3353	236	**61**	378.7661	379
21	240.3707	240	**62**	382.7566	383
22	244.4314	244	**63**	386.8894	387
23	248.4413	248	**64**	391.0053	391
24	252.3071	252	**65**	395.2134	395
25	256.0109	256	**66**	399.5754	400
26	259.5886	260	**67**	404.0866	404
27	263.1528	263	**68**	408.8258	409
28	266.7025	267	**69**	413.7407	414
29	270.2369	270	**70**	418.9284	419
30	273.7563	274	**71**	424.5360	425
31	277.2575	277	**72**	430.4087	430
32	280.7418	281	**73**	436.8783	437
33	284.1295	284	**74**	444.0386	444
34	287.2731	287	**75**	451.7892	452
35	290.5257	291	**76**	460.7940	461
36	293.9368	294	**77**	471.2940	471
37	297.2819	297	**78**	483.4729	483
38	300.3567	300	**79**	497.7043	498
39	303.4968	303	**80**	514.6791	515
40	306.8323	307	**81**	540.2985	540
			82	575.6701	576
			83	628.5192	600

Grade 7 (without essay)					
Raw Score	Scale Score	Reported Score	Raw Score	Scale Score	Reported Score
0	0.0006	150	**41**	321.4925	321
1	52.0626	150	**42**	325.0021	325
2	95.8469	150	**43**	328.2870	328
3	120.0013	150	**44**	331.6542	332
4	137.4699	150	**45**	335.2045	335
5	151.1670	151	**46**	338.5873	339
6	162.7000	163	**47**	342.0202	342
7	172.5497	173	**48**	345.5451	346
8	181.2853	181	**49**	349.2262	349
9	188.9719	189	**50**	352.8885	353
10	196.2935	196	**51**	356.5246	357
11	202.8361	203	**52**	360.1527	360
12	208.8274	209	**53**	363.9276	364
13	214.5688	215	**54**	368.0868	368
14	220.0491	220	**55**	372.2169	372
15	225.0792	225	**56**	376.3293	376
16	230.2120	230	**57**	380.7203	381
17	234.8118	235	**58**	385.3451	385
18	239.3223	239	**59**	389.9403	390
19	243.7361	244	**60**	394.8718	395
20	247.7225	248	**61**	399.9574	400
21	251.6946	252	**62**	405.3956	405
22	255.8657	256	**63**	410.9619	411
23	259.7393	260	**64**	416.8697	417
24	263.6497	264	**65**	423.6331	424
25	267.2654	267	**66**	430.6923	431
26	270.8075	271	**67**	438.3909	438
27	274.3264	274	**68**	447.0256	447
28	277.8219	278	**69**	456.8831	457
29	281.2940	281	**70**	468.3950	468
30	284.7440	285	**71**	482.3835	482
31	288.1722	288	**72**	500.2192	500
32	291.5790	292	**73**	525.2019	525
33	294.9645	295	**74**	564.2201	564
34	298.3299	298	**75**	625.1589	600
35	301.6731	302			
36	304.9965	305			
37	308.2997	308			
38	311.5829	312			
39	314.8461	315			
40	318.0896	318			

Table 3.B.5: 2005 New Form Conversions for English-Language Arts Grades 8 and 9

Grade 8					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	0.0007	150	**41**	323.8870	324
1	53.7592	150	**42**	327.4502	327
2	96.6431	150	**43**	330.6451	331
3	121.2295	150	**44**	333.9190	334
4	138.7310	150	**45**	337.4576	337
5	152.5841	153	**46**	340.7066	341
6	163.9062	164	**47**	343.9718	344
7	173.9598	174	**48**	347.6963	348
8	182.6937	183	**49**	351.1894	351
9	190.6159	191	**50**	354.5939	355
10	197.8265	198	**51**	358.2878	358
11	204.3872	204	**52**	362.4096	362
12	210.6372	211	**53**	366.1814	366
13	216.4028	216	**54**	369.8780	370
14	222.0516	222	**55**	374.0503	374
15	227.1170	227	**56**	378.2740	378
16	232.0516	232	**57**	382.4813	382
17	236.8039	237	**58**	386.8860	387
18	241.2559	241	**59**	391.5917	392
19	245.6781	246	**60**	396.3514	396
20	249.9599	250	**61**	401.3936	401
21	254.0239	254	**62**	406.6620	407
22	257.9045	258	**63**	412.3064	412
23	261.9179	262	**64**	418.5084	419
24	265.8542	266	**65**	424.9291	425
25	269.6838	270	**66**	431.7568	432
26	273.3250	273	**67**	439.5764	440
27	276.8232	277	**68**	448.1756	448
28	280.2993	280	**69**	457.8280	458
29	283.7543	284	**70**	469.1354	469
30	287.1876	287	**71**	482.7737	483
31	290.6004	291	**72**	500.3112	500
32	293.9931	294	**73**	524.3464	524
33	297.3659	297	**74**	564.3937	564
34	300.7192	301	**75**	633.1989	600
35	304.0535	304			
36	307.3690	307			
37	310.6662	311			
38	313.9445	314			
39	317.2069	317			
40	320.4688	320			

Grade 9					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	0.0007	150	**41**	327.8753	328
1	56.1935	150	**42**	331.2234	331
2	99.9263	150	**43**	334.5548	335
3	123.8125	150	**44**	337.8696	338
4	141.8911	150	**45**	341.4051	341
5	155.5650	156	**46**	344.9826	345
6	166.8536	167	**47**	348.2811	348
7	177.0849	177	**48**	351.9859	352
8	185.5449	186	**49**	355.8165	356
9	193.4654	193	**50**	359.2061	359
10	200.5645	201	**51**	362.9639	363
11	207.5884	208	**52**	366.7754	367
12	213.4160	213	**53**	370.8326	371
13	219.2887	219	**54**	374.8606	375
14	224.6833	225	**55**	379.0109	379
15	230.0177	230	**56**	383.3208	383
16	235.0436	235	**57**	387.6361	388
17	239.6022	240	**58**	392.4029	392
18	244.1027	244	**59**	397.2714	397
19	248.5805	249	**60**	402.1948	402
20	253.0365	253	**61**	407.4972	407
21	256.9514	257	**62**	412.8724	413
22	261.1139	261	**63**	418.5058	419
23	264.8208	265	**64**	424.7987	425
24	268.9537	269	**65**	431.4020	431
25	272.6566	273	**66**	438.6507	439
26	276.2684	276	**67**	446.7450	447
27	279.8609	280	**68**	455.6144	456
28	283.4380	283	**69**	465.6491	466
29	286.9969	287	**70**	477.3642	477
30	290.5398	291	**71**	491.4257	491
31	294.0666	294	**72**	509.2277	509
32	297.5773	298	**73**	534.4629	534
33	300.9779	301	**74**	574.7791	575
34	304.0223	304	**75**	639.4489	600
35	307.4425	307			
36	310.8894	311			
37	314.3169	314			
38	317.7321	318			
39	321.1296	321			
40	324.5106	325			

Table 3.B.6: 2005 New Form Conversions for English-Language Arts Grades 10 and 11

Grade 10					
Raw Score	Scale Score	Reported Score	Raw Score	Scale Score	Reported Score
0	0.4011	150	**41**	310.0712	310
1	59.0437	150	**42**	312.7969	313
2	97.9975	150	**43**	315.8906	316
3	123.3130	150	**44**	319.0200	319
4	140.4409	150	**45**	322.1532	322
5	153.1214	153	**46**	325.2887	325
6	163.5476	164	**47**	328.4275	328
7	172.7289	173	**48**	331.6017	332
8	180.9235	181	**49**	334.9563	335
9	188.2705	188	**50**	338.3856	338
10	194.7827	195	**51**	341.6837	342
11	200.7775	201	**52**	345.1335	345
12	206.4239	206	**53**	348.6473	349
13	211.7747	212	**54**	352.3760	352
14	216.8469	217	**55**	355.8490	356
15	221.5892	222	**56**	359.6600	360
16	225.9367	226	**57**	363.8158	364
17	230.1968	230	**58**	367.6898	368
18	234.4633	234	**59**	371.9346	372
19	238.6770	239	**60**	376.4205	376
20	242.5311	243	**61**	381.0989	381
21	246.2070	246	**62**	386.2039	386
22	249.8884	250	**63**	391.3928	391
23	253.5150	254	**64**	397.0656	397
24	256.9800	257	**65**	402.9280	403
25	260.4163	260	**66**	409.2789	409
26	263.5987	264	**67**	416.5341	417
27	266.8657	267	**68**	424.4237	424
28	270.2288	270	**69**	433.5954	434
29	273.3882	273	**70**	444.1886	444
30	276.4822	276	**71**	456.9376	457
31	279.5788	280	**72**	472.9096	473
32	282.6784	283	**73**	495.6847	496
33	285.7803	286	**74**	535.1239	535
34	288.8842	289	**75**	608.7990	600
35	291.9906	292			
36	294.9700	295			
37	297.7652	298			
38	300.8047	301			
39	303.9210	304			
40	307.0397	307			

Grade 11					
Raw Score	Scale Score	Reported Score	Raw Score	Scale Score	Reported Score
0	0.0003	150	**41**	311.0575	311
1	27.1920	150	**42**	314.8161	315
2	70.5676	150	**43**	318.4898	318
3	97.1514	150	**44**	321.9785	322
4	115.6701	150	**45**	325.4171	325
5	130.3561	150	**46**	329.0075	329
6	143.0468	150	**47**	332.7625	333
7	153.3582	153	**48**	336.6054	337
8	162.6131	163	**49**	340.3216	340
9	170.9027	171	**50**	344.1965	344
10	178.4404	178	**51**	347.9630	348
11	185.4151	185	**52**	351.8699	352
12	192.1060	192	**53**	356.0304	356
13	198.2064	198	**54**	360.1998	360
14	203.6701	204	**55**	364.6520	365
15	209.2541	209	**56**	369.1158	369
16	214.5831	215	**57**	373.7774	374
17	219.3163	219	**58**	378.2470	378
18	224.3428	224	**59**	383.1146	383
19	229.0141	229	**60**	388.4832	388
20	233.3321	233	**61**	393.8002	394
21	237.6344	238	**62**	399.4734	399
22	241.9228	242	**63**	405.6498	406
23	246.1968	246	**64**	412.1681	412
24	250.0247	250	**65**	418.8520	419
25	254.0259	254	**66**	426.3582	426
26	257.7441	258	**67**	434.8243	435
27	261.5042	262	**68**	443.9819	444
28	265.2911	265	**69**	454.4463	454
29	268.9319	269	**70**	466.6842	467
30	272.6772	273	**71**	481.0673	481
31	276.4733	276	**72**	500.1579	500
32	279.9550	280	**73**	526.8780	527
33	283.4302	283	**74**	572.1844	572
34	286.8995	287	**75**	661.7838	600
35	290.3633	290			
36	293.8221	294			
37	297.2765	297			
38	300.7264	301			
39	304.1730	304			
40	307.6167	308			

Table 3.B.7: 2005 New Form Conversions for History-Social Science Grade 8

Grade 8					
Raw Score	**Scale Score**	**Reported Score**	**Raw Score**	**Scale Score**	**Reported Score**
0	0.0007	150	**41**	342.6001	343
1	47.8497	150	**42**	346.3138	346
2	87.7079	150	**43**	349.8645	350
3	116.4483	150	**44**	353.5155	354
4	136.4175	150	**45**	357.5364	358
5	152.2136	152	**46**	361.0477	361
6	165.1793	165	**47**	364.8959	365
7	175.9896	176	**48**	368.8570	369
8	185.8163	186	**49**	372.8047	373
9	194.7696	195	**50**	376.7310	377
10	202.8579	203	**51**	380.6400	381
11	210.2276	210	**52**	384.8370	385
12	217.0960	217	**53**	389.1715	389
13	223.4916	223	**54**	393.5588	394
14	229.5640	230	**55**	398.2815	398
15	235.4674	235	**56**	403.0393	403
16	241.0591	241	**57**	407.7705	408
17	246.1641	246	**58**	412.5726	413
18	251.0535	251	**59**	417.6259	418
19	255.9390	256	**60**	423.0546	423
20	260.6405	261	**61**	428.7965	429
21	265.0571	265	**62**	434.8050	435
22	269.3840	269	**63**	441.0719	441
23	273.7040	274	**64**	447.9221	448
24	278.0162	278	**65**	455.2947	455
25	282.3199	282	**66**	463.0929	463
26	286.3924	286	**67**	471.7309	472
27	290.3186	290	**68**	481.4841	481
28	294.5003	295	**69**	492.5659	493
29	298.2819	298	**70**	505.4818	505
30	302.0017	302	**71**	520.9053	521
31	305.7108	306	**72**	541.0410	541
32	309.4088	309	**73**	570.4442	570
33	313.0962	313	**74**	610.1352	600
34	316.7694	317	**75**	661.2691	600
35	320.4312	320			
36	324.0801	324			
37	327.7157	328			
38	331.3378	331			
39	334.9460	335			
40	338.5486	339			

Table 3.B. 8: 2005 New Form Conversions for History-Social Science Grades 10 and 11

Grade 10					
Raw Score	Scale Score	Reported Score	Raw Score	Scale Score	Reported Score
0	0.0003	150	**41**	371.2485	371
1	47.8406	150	**42**	376.5836	377
2	89.0905	150	**43**	381.9150	382
3	118.0175	150	**44**	387.6664	388
4	138.5936	150	**45**	393.6501	394
5	154.5825	155	**46**	399.6308	400
6	167.9437	168	**47**	406.0974	406
7	179.7998	180	**48**	413.2378	413
8	190.1029	190	**49**	420.5060	421
9	199.0091	199	**50**	427.7583	428
10	207.4120	207	**51**	436.1473	436
11	215.2973	215	**52**	445.2705	445
12	222.6499	223	**53**	455.6436	456
13	229.4413	229	**54**	466.6966	467
14	236.2757	236	**55**	480.2624	480
15	242.5572	243	**56**	495.7637	496
16	248.2612	248	**57**	515.7704	516
17	253.9471	254	**58**	542.8717	543
18	259.6619	260	**59**	589.0969	589
19	264.8392	265	**60**	666.7195	600
20	270.5322	271			
21	275.1861	275			
22	280.2852	280			
23	285.4749	285			
24	290.0866	290			
25	294.6578	295			
26	299.8662	300			
27	304.4808	304			
28	309.0904	309			
29	313.7116	314			
30	318.3408	318			
31	322.9795	323			
32	327.6258	328			
33	332.2788	332			
34	336.9374	337			
35	341.6007	342			
36	346.2675	346			
37	350.9369	351			
38	355.8716	356			
39	360.9204	361			
40	365.9109	366			

Grade 11					
Raw Score	Scale Score	Reported Score	Raw Score	Scale Score	Reported Score
0	0.0003	150	**41**	380.1035	380
1	53.0118	150	**42**	385.6254	386
2	99.5844	150	**43**	390.7392	391
3	127.7717	150	**44**	396.4349	396
4	147.7263	150	**45**	402.6269	403
5	163.7739	164	**46**	408.7936	409
6	177.2012	177	**47**	414.9519	415
7	188.7558	189	**48**	421.6644	422
8	198.9060	199	**49**	428.9431	429
9	208.2489	208	**50**	436.7523	437
10	216.9419	217	**51**	445.0804	445
11	224.5930	225	**52**	454.4017	454
12	231.9234	232	**53**	464.3283	464
13	238.8504	239	**54**	475.8909	476
14	245.5100	246	**55**	489.1838	489
15	251.7146	252	**56**	505.0505	505
16	257.7034	258	**57**	525.5056	526
17	263.1860	263	**58**	554.2305	554
18	269.0315	269	**59**	598.4850	598
19	274.4573	274	**60**	667.4795	600
20	279.1908	279			
21	284.4308	284			
22	289.7293	290			
23	294.3790	294			
24	299.0259	299			
25	304.2596	304			
26	308.8688	309			
27	313.4698	313			
28	318.0616	318			
29	322.6439	323			
30	327.2153	327			
31	331.7759	332			
32	336.3246	336			
33	341.0124	341			
34	346.0240	346			
35	350.5333	351			
36	355.1921	355			
37	360.1477	360			
38	364.7727	365			
39	369.8565	370			
40	374.9199	375			

Table 3.B. 9: 2005 New Form Conversions for Mathematics Grades 2 to 4

	Grade 2		Grade 2 Braille		Grade 3		Grade 4		Grade 4 Braille	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
0	0.0000	150	0.0000	150	0.0000	150	2.3408	150	2.3408	150
1	1.5919	150	2.1913	150	7.5385	150	58.1602	150	59.4828	150
2	37.5838	150	39.5928	150	49.5198	150	93.8923	150	95.5143	150
3	65.0886	150	67.1705	150	76.7912	150	116.9670	150	118.5011	150
4	85.0508	150	87.2836	150	96.6573	150	133.8959	150	135.4335	150
5	101.1285	150	103.4256	150	112.4455	150	147.2339	150	148.7620	150
6	114.2123	150	116.7297	150	125.6220	150	158.0239	158	159.5137	160
7	125.8907	150	128.3910	150	136.9577	150	167.4384	167	168.9960	169
8	135.8296	150	138.5281	150	146.9854	150	175.8954	176	177.4982	177
9	145.0984	150	147.9572	150	156.2421	156	183.7264	184	185.4145	185
10	153.5559	154	156.3290	156	164.3435	164	190.7582	191	192.4105	192
11	161.1291	161	164.1392	164	172.0281	172	197.1404	197	198.7867	199
12	168.6001	169	171.8969	172	179.6584	180	203.0107	203	204.6817	205
13	175.6430	176	178.7949	179	186.1806	186	208.7083	209	210.4432	210
14	182.0138	182	185.2393	185	192.4854	192	214.0690	214	215.8383	216
15	188.2107	188	191.6762	192	198.7588	199	219.2746	219	221.0592	221
16	194.4012	194	198.0201	198	204.9246	205	224.1253	224	225.9344	226
17	200.3825	200	203.9153	204	210.4808	210	228.8249	229	230.7271	231
18	205.8347	206	209.3570	209	215.5897	216	233.5171	234	235.3797	235
19	211.0150	211	214.8467	215	220.9586	221	237.8406	238	239.7203	240
20	216.3682	216	220.1387	220	226.0323	226	242.0243	242	243.9874	244
21	221.3407	221	225.2700	225	231.3372	231	246.2051	246	248.2549	248
22	226.2798	226	230.3995	230	236.2290	236	250.3766	250	252.3063	252
23	231.2181	231	235.5300	236	240.9134	241	254.1742	254	256.3267	256
24	236.1590	236	240.6609	241	245.3030	245	258.2161	258	260.2913	260
25	241.1008	241	245.7091	246	250.0493	250	261.9848	262	264.0631	264
26	245.9304	246	250.3407	250	254.6706	255	265.6933	266	268.0767	268
27	250.4052	250	255.2875	255	259.0016	259	269.7200	270	271.9989	272
28	255.1807	255	259.8288	260	263.5506	264	273.4755	273	275.7477	276
29	259.5627	260	264.3278	264	267.8414	268	277.1327	277	279.4667	279
30	263.9023	264	269.0689	269	272.3619	272	280.7080	281	282.8282	283
31	268.4173	268	273.8965	274	276.6159	277	284.0129	284	286.3963	286
32	273.1355	273	278.4598	278	281.1137	281	287.5891	288	290.0943	290
33	277.5654	278	283.2727	283	285.3326	285	291.2378	291	293.7979	294
34	282.1088	282	288.0554	288	289.8081	290	294.8855	295	297.4986	297
35	286.8190	287	292.6151	293	294.0005	294	298.5316	299	301.1958	301
36	291.2677	291	297.1310	297	298.5077	299	302.1755	302	304.8890	305
37	295.6366	296	302.0316	302	303.0669	303	305.8169	306	308.5777	309
38	300.2047	300	306.7603	307	307.2319	307	309.4552	309	312.2615	312
39	304.9344	305	311.7297	312	311.6731	312	313.0902	313	315.9854	316
40	309.5765	310	316.8749	317	316.2463	316	316.8656	317	320.0778	320
41	314.5209	315	322.0400	322	320.8137	321	320.8234	321	323.7912	324
42	319.5325	320	327.2030	327	325.7586	326	324.4821	324	327.5231	328
43	324.5450	325	332.3630	332	330.5196	331	328.2555	328	331.6674	332
44	329.5580	330	337.5690	338	335.4282	335	332.3589	332	335.8382	336
45	334.5838	335	343.2225	343	340.2153	340	336.4830	336	340.0005	340
46	339.7493	340	349.0090	349	345.0965	345	340.6005	341	344.2497	344
47	345.3827	345	354.9233	355	350.4533	350	344.8738	345	348.9025	349
48	351.0236	351	361.1762	361	355.8491	356	349.4814	349	353.5580	354
49	356.8361	357	367.5696	368	361.2773	361	354.0911	354	358.2052	358
50	363.0691	363	374.1349	374	367.1293	367	358.6956	359	363.0441	363
51	369.3027	369	381.1673	381	373.3316	373	363.5885	364	368.5887	369

	Grade 2		Grade 2 Braille		Grade 3		Grade 4		Grade 4 Braille	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
52	375.7982	376	388.8124	389	379.6290	380	369.0403	369	373.8237	374
53	382.8266	383	396.8977	397	386.2839	386	374.2736	374	379.6537	380
54	390.4409	390	405.3135	405	393.5074	394	380.1265	380	386.2723	386
55	398.3763	398	414.7396	415	401.1545	401	386.6939	387	392.9855	393
56	406.8098	407	424.9903	425	409.2445	409	393.3861	393	400.2706	400
57	416.1690	416	437.0330	437	418.0555	418	400.6675	401	408.5249	409
58	426.3812	426	450.8113	451	427.8733	428	408.9057	409	417.7435	418
59	438.2366	438	467.4280	467	439.0015	439	418.0997	418	428.1439	428
60	451.9579	452	488.2691	488	451.9862	452	428.5053	429	441.0053	441
61	468.5590	469	517.6030	518	467.6360	468	441.3561	441	457.0306	457
62	489.3740	489	562.5815	563	487.1389	487	457.3878	457	479.3572	479
63	518.8087	519	632.1190	600	514.4554	514	479.7425	480	515.7192	516
64	563.6200	564			558.3496	558	516.0336	516	575.5792	600
65	632.1190	600			633.7990	600	575.5792	600		

Table 3.B.10: 2005 New Form Conversions for Mathematics Grades 5 to 7

	Grade 5		Grade 6		Grade 7		Grade 7 Braille	
Raw Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score
0	0.0000	150	0.0007	150	0.0007	150	0.0007	150
1	9.9757	150	55.1238	150	52.0670	150	52.4198	150
2	48.5592	150	95.1590	150	93.9876	150	94.5580	150
3	79.5556	150	120.1626	150	120.7204	150	121.2430	150
4	101.5541	150	137.9806	150	139.8553	150	140.3708	150
5	118.7959	150	152.1735	152	155.1283	155	155.6587	156
6	133.0889	150	164.0953	164	167.8018	168	168.3381	168
7	145.3988	150	174.3364	174	178.4959	178	179.0324	179
8	156.2736	156	183.4028	183	188.1977	188	188.7837	189
9	165.9792	166	191.7995	192	197.1429	197	197.7516	198
10	174.8439	175	199.2933	199	205.1780	205	205.7882	206
11	183.1150	183	206.1083	206	212.4639	212	213.0908	213
12	190.8066	191	212.7106	213	219.1380	219	219.7715	220
13	197.9266	198	218.6659	219	225.3821	225	226.0484	226
14	204.6505	205	224.5066	225	231.5005	232	232.2302	232
15	211.3742	211	229.9705	230	237.4275	237	238.1747	238
16	217.9467	218	235.2279	235	243.0572	243	243.8326	244
17	223.5470	224	240.2436	240	248.3665	248	249.1444	249
18	229.6413	230	244.9000	245	253.3764	253	254.1767	254
19	235.2364	235	249.6564	250	258.2870	258	259.1450	259
20	240.7879	241	254.2259	254	263.1995	263	264.1165	264
21	245.8923	246	259.0564	259	268.1132	268	269.0907	269
22	251.2866	251	263.3771	263	272.7756	273	273.7252	274
23	256.4952	256	267.3152	267	277.1496	277	278.1142	278
24	261.5228	262	271.6777	272	281.4497	281	282.4716	282
25	266.5455	267	275.6026	276	285.7500	286	286.8287	287
26	271.3291	271	279.9582	280	290.0479	290	291.1853	291
27	276.0305	276	283.8714	284	294.3442	294	295.5416	296
28	280.8857	281	287.7544	288	298.6386	299	299.8968	300
29	285.5718	286	291.6416	292	302.9304	303	304.2117	304
30	290.5381	291	295.5335	296	306.8941	307	308.1730	308
31	295.1046	295	299.4304	299	310.9361	311	312.3519	312
32	299.7371	300	303.3325	303	315.1855	315	316.6080	317
33	304.8750	305	307.2402	307	319.1188	319	320.5983	321
34	309.5002	310	311.1540	311	323.1483	323	324.7806	325
35	314.1267	314	315.0742	315	327.4002	327	329.1150	329
36	318.7777	319	319.0013	319	331.6603	332	333.4444	333
37	323.4591	323	322.9357	323	335.9041	336	337.6098	338
38	328.1985	328	326.8780	327	339.8135	340	341.6132	342
39	333.5364	334	330.8288	331	343.8265	344	345.9728	346
40	338.3293	338	334.7886	335	348.3706	348	350.5889	351
41	343.1166	343	338.7579	339	352.8516	353	354.9959	355
42	348.0226	348	342.8239	343	357.1133	357	359.4759	359
43	353.5207	354	347.0843	347	361.6041	362	364.0849	364
44	358.9577	359	351.3880	351	366.1197	366	368.6261	369
45	364.0271	364	355.7661	356	370.6313	371	373.4263	373
46	369.6360	370	360.3704	360	375.4565	375	378.4665	378
47	375.2936	375	365.0834	365	380.4776	380	383.6986	384
48	381.2180	381	370.0065	370	385.5585	386	388.7326	389
49	387.6447	388	374.9549	375	390.6422	391	394.2893	394
50	394.1027	394	380.0319	380	396.2475	396	400.2977	400
51	400.6361	401	385.4236	385	402.1321	402	406.3009	406
52	407.5495	408	391.1625	391	408.0716	408	412.5599	413

	Grade 5		Grade 6		Grade 7		Grade 7 Braille	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
53	414.9093	415	397.2086	397	414.4227	414	419.5889	420
54	422.6838	423	403.6409	404	421.2179	421	426.4028	426
55	430.8896	431	410.3573	410	428.1395	428	434.3547	434
56	439.8774	440	417.6406	418	436.1260	436	443.2397	443
57	449.8891	450	425.7307	426	444.8370	445	452.4121	452
58	460.7678	461	435.0380	435	454.0788	454	463.2883	463
59	473.0453	473	445.2991	445	464.9474	465	475.8619	476
60	487.3390	487	457.0212	457	477.4432	477	490.4469	490
61	504.4452	504	471.0551	471	492.1253	492	509.6859	510
62	525.7560	526	489.0798	489	511.3353	511	535.2572	535
63	555.1314	555	514.1534	514	537.1368	537	578.1255	578
64	604.4357	600	556.0295	556	579.7167	580	648.9990	600
65	691.2489	600	630.3291	600	648.9990	600		

Table 3.B. 11: 2005 New Form Conversions for General Math, Algebra I, Geometry, Algebra II, and Summative High School Math

	General Mathematics		Algebra I		Geometry		Algebra II		Summative High School Math	
Raw Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score
0	0.0003	150	-68.2504	150	-44.9995	150	-54.8295	150	-87.7995	150
1	50.8370	150	22.2260	150	36.7204	150	16.0690	150	-4.6189	150
2	92.9301	150	73.6010	150	80.9314	150	61.6812	150	41.4536	150
3	119.4006	150	104.1334	150	107.2220	150	91.3752	150	69.1501	150
4	138.3882	150	126.2213	150	126.2826	150	112.8813	150	89.4182	150
5	153.6335	154	143.9414	150	141.2240	150	129.5861	150	105.9093	150
6	166.4676	166	158.7046	159	154.0813	154	143.3379	150	119.3326	150
7	176.9993	177	171.4075	171	164.8214	165	155.5149	156	130.7733	150
8	186.7063	187	182.4469	182	174.5518	175	166.2432	166	141.3039	150
9	195.8529	196	192.3715	192	182.8672	183	175.8855	176	150.7443	151
10	203.9098	204	201.4611	201	191.0295	191	184.5158	185	159.2127	159
11	211.2925	211	210.3333	210	198.4656	198	192.6024	193	167.2218	167
12	218.0816	218	217.8776	218	205.1954	205	200.1785	200	174.8957	175
13	224.2689	224	225.8763	226	211.3744	211	207.7479	208	181.9570	182
14	230.4081	230	232.4930	232	217.5089	218	214.1280	214	188.8301	189
15	236.5629	237	239.7256	240	223.4418	223	220.5396	221	194.9841	195
16	242.1381	242	246.1836	246	228.8903	229	226.9811	227	201.0934	201
17	247.6896	248	251.9420	252	234.1386	234	232.8297	233	206.9695	207
18	252.6429	253	257.7617	258	239.0907	239	238.6772	239	212.5578	213
19	257.6037	258	264.0948	264	244.2859	244	243.9398	244	218.2508	218
20	262.5709	263	269.6824	270	249.0227	249	249.7844	250	223.5212	224
21	267.5434	268	274.7648	275	253.7371	254	255.0947	255	228.3978	228
22	272.4051	272	280.3006	280	258.4305	258	259.7635	260	233.3230	233
23	276.7625	277	285.3629	285	262.9913	263	265.0084	265	238.4753	238
24	281.1224	281	290.8607	291	267.1605	267	270.3207	270	243.1638	243
25	285.4823	285	295.7692	296	271.7243	272	275.0228	275	248.0465	248
26	289.8427	290	300.6660	301	275.8226	276	279.7003	280	252.6358	253
27	294.2024	294	305.5518	306	280.4030	280	284.3920	284	257.4714	257
28	298.5606	299	310.4274	310	284.4250	284	289.0986	289	261.9839	262
29	302.9166	303	315.2934	315	288.4370	288	293.8168	294	266.3043	266
30	306.9738	307	320.1506	320	292.9885	293	298.5483	299	271.0425	271
31	311.0183	311	324.9998	325	297.0352	297	303.2927	303	275.4785	275
32	315.3626	315	329.8417	330	301.0237	301	307.9644	308	279.7159	280
33	319.3441	319	334.6771	335	305.0060	305	312.1617	312	284.3325	284
34	323.4341	323	339.5062	340	309.4120	309	316.9433	317	288.7351	289
35	327.7599	328	344.3301	344	313.5612	314	321.7367	322	293.2557	293
36	332.0782	332	349.1492	349	317.5351	318	326.5417	327	297.6603	298
37	336.3881	336	353.9640	354	321.8383	322	331.3580	331	302.0778	302
38	340.2478	340	358.7917	359	326.0815	326	336.1850	336	306.7634	307
39	344.3804	344	364.2835	364	330.3242	330	341.0234	341	311.4267	311
40	349.1273	349	369.0878	369	334.6395	335	345.8719	346	316.0687	316
41	353.5313	354	373.8891	374	338.8291	339	350.7304	351	320.6904	321
42	357.7892	358	379.3489	379	343.3923	343	355.5982	356	325.2931	325
43	362.5270	363	384.8319	385	347.9654	348	360.9107	361	329.9298	330
44	366.8694	367	389.6856	390	352.5509	353	366.0200	366	335.0682	335
45	371.5875	372	395.7012	396	357.2444	357	371.4329	371	340.1883	340
46	376.3936	376	401.2677	401	362.4374	362	377.0352	377	345.2907	345
47	381.6797	382	407.3192	407	367.6540	368	382.6454	383	350.3792	350
48	386.5554	387	412.9132	413	372.8949	373	388.9121	389	355.8596	356
49	391.7976	392	419.4681	419	378.1827	378	394.6179	395	361.4802	361
50	397.6045	398	425.7732	426	384.0736	384	401.5690	402	367.3771	367

	General Mathematics		Algebra I		Geometry		Algebra II		Summative High School Math	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
51	403.4979	403	432.4216	432	390.0051	390	408.0336	408	373.5295	374
52	409.3657	409	439.7257	440	395.9819	396	415.2502	415	379.8368	380
53	416.0882	416	447.6812	448	402.6114	403	422.9984	423	386.6262	387
54	422.6420	423	455.8366	456	409.9213	410	431.0125	431	393.8962	394
55	429.8049	430	464.3972	464	417.9163	418	439.7718	440	401.6690	402
56	438.0414	438	473.5870	474	426.0940	426	449.2707	449	409.9701	410
57	446.6281	447	483.7748	484	435.6939	436	459.9071	460	418.7518	419
58	456.1200	456	495.2067	495	446.6657	447	472.0176	472	428.8210	429
59	467.1564	467	508.1689	508	458.8241	459	485.5793	486	440.3611	440
60	479.6991	480	522.9437	523	473.7943	474	502.1652	502	453.3948	453
61	494.7568	495	540.6439	541	493.0302	493	522.9147	523	468.7711	469
62	514.1147	514	563.6241	564	519.1393	519	551.5652	552	488.4391	488
63	540.5834	541	595.1632	595	563.7407	564	599.4477	599	515.8661	516
64	582.8249	583	644.1946	600	645.5995	600	681.5695	600	559.4677	559
65	648.9995	600	721.0744	600					630.7795	600

Table 3.B.12: 2005 New Form Conversions for Integrated Mathematics 1, 2, and 3

	Integrated Mathematics 1		Integrated Mathematics 2		Integrated Mathematics 3	
Raw Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score
0	-77.6988	150	-60.2788	150	-100.7238	150
1	0.7145	150	40.7963	150	-19.5619	150
2	51.6970	150	92.9408	150	33.9453	150
3	84.9696	150	122.9797	150	69.2560	150
4	108.1835	150	144.3315	150	94.6475	150
5	126.3952	150	161.3965	161	114.3670	150
6	141.5723	150	175.5429	176	130.6283	150
7	154.0496	154	187.6284	188	144.9032	150
8	165.1668	165	198.3937	198	157.4772	157
9	175.1382	175	207.9063	208	168.6759	169
10	184.2633	184	216.4518	216	179.1178	179
11	192.8721	193	224.6868	225	188.6068	189
12	201.0681	201	232.3988	232	197.2174	197
13	208.3357	208	239.6342	240	205.8028	206
14	215.9005	216	246.2390	246	213.9295	214
15	222.4258	222	252.4943	252	221.2744	221
16	228.9738	229	258.6734	259	228.6751	229
17	235.0901	235	264.7795	265	235.3099	235
18	240.9863	241	270.5056	271	242.1968	242
19	246.9419	247	275.7877	276	248.6134	249
20	252.7267	253	280.9505	281	255.0032	255
21	258.0798	258	286.0579	286	261.0698	261
22	263.4966	263	291.1117	291	266.7225	267
23	269.0492	269	296.1141	296	272.3835	272
24	273.9867	274	301.0676	301	278.0516	278
25	279.4734	279	305.9729	306	283.7229	284
26	284.4241	284	310.8312	311	289.3975	289
27	289.2893	289	315.5624	316	295.0734	295
28	294.1542	294	319.9223	320	300.6855	301
29	299.0191	299	324.4690	324	305.7857	306
30	303.8844	304	329.1609	329	311.2472	311
31	308.7504	309	333.8150	334	316.2852	316
32	313.6175	314	338.4338	338	321.7878	322
33	318.4860	318	343.0151	343	326.7672	327
34	323.3566	323	347.5632	348	332.3890	332
35	328.2298	328	352.0805	352	337.9031	338
36	333.1061	333	356.5659	357	342.8672	343
37	338.1014	338	361.0225	361	348.3182	348
38	343.3404	343	365.7455	366	353.3144	353
39	348.4602	348	370.5275	371	358.9028	359
40	353.3554	353	375.0897	375	364.4771	364
41	358.3500	358	380.0562	380	370.0368	370
42	363.7506	364	384.9966	385	375.6106	376
43	369.3073	369	389.9412	390	381.3855	381
44	374.5040	375	395.4104	395	387.4369	387
45	380.5328	381	400.8789	401	393.2259	393
46	386.3104	386	406.3605	406	399.5258	400
47	391.9881	392	412.1225	412	406.0344	406

	Integrated Mathematics 1		Integrated Mathematics 2		Integrated Mathematics 3	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
48	398.3002	398	418.1099	418	412.7666	413
49	404.7232	405	424.0691	424	419.3083	419
50	411.2955	411	430.3432	430	426.5403	427
51	418.4594	418	437.3620	437	433.9764	434
52	426.0939	426	444.5326	445	441.4986	441
53	433.7384	434	452.0387	452	449.9124	450
54	442.3084	442	460.0051	460	458.6247	459
55	451.3267	451	468.8421	469	468.0513	468
56	461.6320	462	478.6039	479	478.1842	478
57	472.7950	473	489.3598	489	489.3524	489
58	485.5802	486	501.4842	501	501.5529	502
59	500.0480	500	516.0697	516	515.4653	515
60	517.4198	517	533.2789	533	531.8903	532
61	539.7500	540	554.6442	555	551.6309	552
62	571.5932	572	586.6090	587	576.6555	577
63	625.4099	600	634.7634	600	611.9404	600
64	714.6990	600	699.9591	600	666.6737	600
65					753.3237	600

Table 3.B.13: 2005 New Form Conversions for Grade 5 Science

	Grade 5 Science		Grade 5 Science Braille	
Raw Score	Scale Score	Reported Score	Scale Score	Reported Score
0	47.3185	150	47.3185	150
1	80.3527	150	80.9945	150
2	121.6907	150	122.4625	150
3	146.4149	150	147.2585	150
4	164.3237	164	165.2386	165
5	178.5117	179	179.4893	179
6	190.3625	190	191.3902	191
7	200.6055	201	201.6759	202
8	209.6724	210	210.7813	211
9	217.8447	218	218.9897	219
10	225.3177	225	226.4976	226
11	232.2297	232	233.4438	233
12	238.6832	239	239.9315	240
13	244.7543	245	246.0364	246
14	250.5050	251	251.8217	252
15	255.9823	256	257.3337	257
16	261.2256	261	262.6107	263
17	266.2735	266	267.6953	268
18	271.1467	271	272.6045	273
19	275.8744	276	277.3731	277
20	280.4706	280	282.0075	282
21	284.9581	285	286.5415	287
22	289.3498	289	290.9748	291
23	293.6577	294	295.3309	295
24	297.8982	298	299.6215	300
25	302.0792	302	303.8530	304
26	306.2144	306	308.0466	308
27	310.3127	310	312.1997	312
28	314.3811	314	316.3324	316
29	318.4346	318	320.4526	320
30	322.4768	322	324.5611	325
31	326.5163	327	328.6787	329
32	330.5655	331	332.8034	333
33	334.6260	335	336.9503	337
34	338.7157	339	341.1323	341
35	342.8418	343	345.3563	345
36	347.0113	347	349.6290	350
37	351.2339	351	353.9675	354
38	355.5254	356	358.3849	358
39	359.8963	360	362.8907	363
40	364.3593	364	367.5007	368
41	368.9293	369	372.2353	372
42	373.6265	374	377.1165	377
43	378.4717	378	382.1708	382
44	383.4870	383	387.4135	387
45	388.6954	389	392.8894	393
46	394.1359	394	398.6302	399

	Grade 5 Science		Grade 5 Science Braille	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
47	399.8437	400	404.6897	405
48	405.8698	406	411.1316	411
49	412.2809	412	418.0304	418
50	419.1471	419	425.4879	425
51	426.5743	427	433.6476	434
52	434.7012	435	442.6978	443
53	443.7197	444	452.9387	453
54	453.9277	454	464.8047	465
55	465.7581	466	479.0374	479
56	479.9499	480	497.0300	497
57	497.8923	498	521.9396	522
58	522.7327	523	563.8089	564
59	564.4721	564	624.0193	600
60	624.0193	600		

Table 3.B.14: 2005 New Form Conversions for Biology, Chemistry, Earth Science, and Physics

	Biology		Biology Braille		Chemistry		Earth Science		Physics	
Raw Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score
0	0.0007	150	0.0007	150	51.9904	150	51.0104	150	51.4129	150
1	116.5096	150	117.0451	150	113.1192	150	115.9690	150	111.5036	150
2	152.8111	153	153.4457	153	148.5876	150	151.6354	152	146.7430	150
3	174.3763	174	175.0806	175	169.3455	169	172.9827	173	167.7838	168
4	190.1854	190	190.9160	191	184.9836	185	188.4369	188	182.9727	183
5	202.3682	202	203.0969	203	196.8547	197	200.8096	201	195.2165	195
6	212.3280	212	213.1138	213	207.1487	207	210.7205	211	205.4895	205
7	221.1596	221	221.9740	222	215.8734	216	219.4799	219	214.2415	214
8	229.1005	229	229.9733	230	223.4133	223	227.1390	227	221.6969	222
9	236.2693	236	237.1210	237	230.6657	231	234.0888	234	228.9820	229
10	242.6023	243	243.4771	243	237.0305	237	240.4820	240	235.3469	235
11	248.6211	249	249.5854	250	242.8733	243	246.6310	247	241.2028	241
12	254.1812	254	255.0599	255	248.3657	248	251.9161	252	246.6628	247
13	259.1616	259	260.1162	260	253.6731	254	257.1814	257	252.0005	252
14	264.1278	264	265.1590	265	258.4663	258	262.2079	262	256.9599	257
15	268.8735	269	269.8712	270	262.9388	263	266.6602	267	261.7801	262
16	273.3225	273	274.3911	274	267.4053	267	271.1082	271	266.2391	266
17	277.7636	278	278.9025	279	271.8637	272	275.4673	275	270.6961	271
18	282.0089	282	283.0851	283	276.1088	276	279.6036	280	274.9904	275
19	285.9454	286	287.0858	287	280.0610	280	283.7253	284	278.9476	279
20	289.8776	290	291.0831	291	284.0077	284	287.4458	287	282.9025	283
21	293.8067	294	295.0777	295	287.9491	288	291.4347	291	286.8551	287
22	297.5795	298	298.7494	299	291.6659	292	295.0851	295	290.8060	291
23	301.1580	301	302.5620	303	295.3270	295	298.6396	299	294.5606	295
24	304.9461	305	306.2338	306	299.0315	299	302.6429	303	298.2107	298
25	308.3786	308	309.7257	310	302.4631	302	306.1999	306	301.9496	302
26	311.9268	312	313.5351	314	306.1122	306	309.7151	310	305.3969	305
27	315.7436	316	317.2114	317	309.8046	310	313.2169	313	309.0548	309
28	319.1770	319	320.7058	321	313.2249	313	316.7049	317	312.7714	313
29	322.6115	323	324.2018	324	316.6417	317	320.1790	320	316.2109	316
30	326.0473	326	327.6996	328	320.0552	320	323.6391	324	319.6476	320
31	329.4848	329	331.1995	331	323.4656	323	327.0849	327	323.0814	323
32	332.9234	333	334.7014	335	326.8728	327	330.5162	331	326.5121	327
33	336.3659	336	338.2066	338	330.4826	330	333.9327	334	330.1720	330
34	339.8542	340	342.0305	342	334.1689	334	337.3343	337	333.8512	334
35	343.7565	344	345.7247	346	337.5680	338	340.7380	341	337.2718	337
36	347.2059	347	349.2383	349	341.1565	341	344.5817	345	340.9245	341
37	350.6807	351	353.0771	353	344.8485	345	347.9368	348	344.5890	345
38	354.6131	355	356.7745	357	348.4215	348	351.7509	352	348.2330	348
39	358.0828	358	360.6279	361	352.2963	352	355.5479	356	352.1231	352
40	362.0393	362	364.6590	365	356.1681	356	359.3275	359	356.0105	356
41	365.9998	366	368.6943	369	360.0377	360	363.0868	363	359.8910	360
42	369.9642	370	373.0755	373	364.0622	364	367.2261	367	363.9927	364
43	374.4242	374	377.2774	377	368.2608	368	371.4105	371	368.3452	368
44	378.4052	378	381.6784	382	372.4106	372	375.5710	376	372.6906	373
45	382.8671	383	386.5966	387	377.1021	377	380.0277	380	377.0286	377
46	387.8284	388	391.6666	392	381.5729	382	384.5993	385	381.5653	382
47	392.8090	393	396.7425	397	386.5150	387	389.3923	389	386.5662	387

	Biology		Biology Braille		Chemistry		Earth Science		Physics	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
48	397.7963	398	402.2054	402	391.8198	392	394.5711	395	391.8393	392
49	403.2667	403	408.1904	408	397.2252	397	400.1265	400	397.2824	397
50	409.2414	409	414.6988	415	403.1017	403	406.0490	406	403.1810	403
51	415.7219	416	421.7314	422	409.4486	409	412.3281	412	409.5313	410
52	422.7090	423	429.7072	430	416.3436	416	419.0152	419	416.4764	416
53	430.6825	431	438.3069	438	424.1118	424	426.8803	427	424.3227	424
54	439.1938	439	448.7534	449	432.5297	433	435.5060	436	433.0715	433
55	449.6644	450	460.8441	461	442.7766	443	445.8623	446	443.0115	443
56	461.6748	462	476.3662	476	454.5966	455	457.9763	458	455.2705	455
57	477.1689	477	497.9389	498	469.8616	470	473.5535	474	470.5231	471
58	498.6791	499	533.6149	534	491.1164	491	495.8336	496	491.5094	492
59	534.2241	534	595.4996	600	526.1829	526	529.3516	529	526.2053	526
60	595.4996	600			584.6196	600	579.7196	600	582.7871	600

Table 3.B.15: 2005 New Form Conversions for Integrated Science 1, 2, 3, and 4

	Integrated Science 1		Integrated Science 2		Integrated Science 3		Integrated Science 4		Integrated Science 4 Braille	
Raw Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score	Scale Score	Reported Score
0	0.0000	150	0.0000	150	0.0000	150	0.0000	150	0.0000	150
1	112.7070	150	112.7480	150	120.3325	150	109.7270	150	112.7947	150
2	148.1709	150	148.2078	150	155.7354	156	145.0741	150	147.4537	150
3	169.3867	169	169.4198	169	176.9181	177	166.2189	166	168.2068	168
4	184.7760	185	184.8068	185	192.2840	192	181.5569	182	183.2643	183
5	196.9785	197	197.0068	197	204.4701	204	193.7182	194	195.2113	195
6	207.1713	207	207.1972	207	214.6497	215	203.8763	204	205.1780	205
7	215.9818	216	216.0045	216	223.4501	223	212.6561	213	213.8041	214
8	223.7865	224	223.8072	224	231.2456	231	220.4341	220	221.4496	221
9	230.8223	231	230.8409	231	238.2743	238	227.4456	227	228.3517	228
10	238.1271	238	237.2795	237	244.7090	245	233.8639	234	234.6632	235
11	244.8292	245	243.2348	243	250.6606	251	239.8004	240	240.5155	241
12	251.0310	251	248.7966	249	256.2202	256	245.3450	245	245.9777	246
13	256.8083	257	254.0325	254	261.4546	261	250.5645	251	251.1122	251
14	262.2207	262	258.9948	259	266.4144	266	255.5112	256	255.9953	256
15	267.3152	267	263.7255	264	271.1431	271	260.2268	260	260.6591	261
16	272.1310	272	268.2577	268	275.6736	276	264.7446	265	265.1060	265
17	276.7010	277	273.1377	273	280.0359	280	268.5807	269	268.9118	269
18	280.1114	280	277.7843	278	284.2501	284	272.3524	272	272.6460	273
19	283.4846	283	281.3556	281	288.3345	288	276.0763	276	276.3513	276
20	286.8396	287	284.9029	285	292.3140	292	280.5546	281	280.7526	281
21	290.1813	290	288.7872	289	296.1966	296	284.8563	285	284.9985	285
22	293.5238	294	292.5921	293	300.0000	300	289.0015	289	289.0732	289
23	296.8718	297	296.3246	296	303.7326	304	292.7222	293	292.7792	293
24	300.0000	300	300.0000	300	307.4052	307	296.3854	296	296.4023	296
25	303.6269	304	303.6261	304	311.0310	311	300.0000	300	300.0000	300
26	307.2127	307	307.2119	307	314.6150	315	303.5741	304	303.5377	304
27	310.7687	311	310.7680	311	318.1694	318	307.1186	307	307.0590	307
28	314.2989	314	314.2976	314	321.6982	322	310.6369	311	310.5622	311
29	317.8127	318	317.8117	318	325.2101	325	314.1395	314	314.0489	314
30	321.3202	321	321.3195	321	328.7164	329	317.6358	318	317.5267	318
31	324.8280	325	324.8271	325	332.2225	332	321.1320	321	321.0249	321
32	328.3393	328	328.3382	328	335.7329	336	324.6318	325	324.5142	325
33	331.8666	332	331.8663	332	339.2582	339	328.1482	328	328.0403	328
34	335.4162	335	335.4165	335	342.8061	343	331.6866	332	331.5756	332
35	338.9960	339	338.9962	339	346.3836	346	335.2547	335	335.1478	335
36	342.6139	343	342.6142	343	350.0000	350	338.8610	339	338.7709	339
37	346.2790	346	346.2795	346	353.6630	354	342.5144	343	342.4564	342
38	350.0000	350	350.0000	350	357.3826	357	346.2230	346	346.1970	346
39	353.7891	354	353.7893	354	361.1694	361	350.0000	350	350.0000	350
40	357.6599	358	357.6599	358	365.0389	365	353.8582	354	353.9254	354
41	361.6225	362	361.6228	362	368.6478	369	357.8082	358	358.3165	358
42	365.6932	366	365.6931	366	372.2835	372	361.8656	362	362.9217	363
43	369.8894	370	369.8889	370	375.9585	376	366.0479	366	367.7735	368
44	373.7247	374	374.2289	374	379.6902	380	370.3743	370	372.8623	373
45	377.6400	378	378.1943	378	383.4956	383	374.8703	375	378.2338	378
46	381.6526	382	382.2590	382	387.3923	387	379.5590	380	383.9493	384
47	385.7949	386	386.4557	386	391.4114	391	384.4801	384	390.0360	390

	Integrated Science 1		Integrated Science 2		Integrated Science 3		Integrated Science 4		Integrated Science 4 Braille	
Raw Score	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**	**Scale Score**	**Reported Score**
48	390.0952	390	390.8126	391	396.9222	397	390.3624	390	396.5763	397
49	396.1073	396	396.8729	397	402.8447	403	396.6805	397	402.0635	402
50	402.6089	403	403.4253	403	409.2539	409	401.8966	402	407.9187	408
51	409.6967	410	410.5689	411	416.2438	416	407.4705	407	414.2860	414
52	417.5057	418	418.4400	418	423.9458	424	414.4481	414	421.2984	421
53	426.2153	426	426.1977	426	432.5409	433	422.1825	422	429.1542	429
54	434.9859	435	434.9651	435	442.2983	442	430.9230	431	438.2131	438
55	445.1383	445	445.1131	445	452.4380	452	441.0402	441	449.0544	449
56	457.2944	457	457.2647	457	464.5778	465	453.1546	453	462.7684	463
57	472.6375	473	472.6018	473	479.8991	480	468.4449	468	483.4565	483
58	493.8018	494	493.7601	494	501.0311	501	489.5377	490	518.0811	518
59	529.2109	529	529.1613	529	536.3808	536	524.8284	525	1287.7228	600
60	1315.6167	600	1316.1284	600	1323.9875	600	1309.1704	600		

Chapter 4: Validity

This chapter summarizes evidence of validity for the California Standardized Tests based on the spring 2005 test assembly process and an additional study relating the CAT/6 Survey tests and the CSTs using the 2004 data when a full complement of CAT/6 Survey tests were administered. Other validity studies have been conducted by the CDE and local districts throughout California. Those studies are not included here.

Validity Evidence Based on Test Content

Content validity refers to the degree to which the content of a test is congruent with the purpose of the testing. CST items were developed to conform to the SBE-approved content standards; therefore, the content-related evidence of validity concerns the extent to which the CSTs represent the specified content domains and cognitive dimensions.

After the CST items had been written by ETS-trained item writers, a series of reviews, including reviews by ETS content assessment specialists and the external Assessment Review Panels, were conducted to make sure that each item was measuring the appropriate California Content Standard and matched to the item specifications. A description of the CST reporting clusters and the standards associated with the reporting clusters is provided in Appendix 2.B on page 22. Detailed information on the content evaluation process and the constitution of Assessment Review Panels can be found on page 8 in Chapter 2.

Evidence Based on Relations to Other Variables

Analyses of the relationship of test scores to variables external to the test provide an important source of validity evidence, which address questions about the degree to which these relationships are consistent with the construct underlying the proposed test interpretations. Relationships between test scores and other measures intended to measure similar constructs provide convergent validity evidence. For English-language arts, mathematics, and science CSTs, the convergent evidence can be collected through examining the relationship between CSTs and their CAT/6 Survey counterparts.

CAT/6 Survey tests assess students on reading, language, spelling, mathematics, and science, and compare California student achievement to a national norm. The CSTs are expected to relate closely to CAT/6 Survey programs as they are intended to measure similar constructs. Three groups of correlations were examined:

- Correlations between ELA CSTs and CAT/6 Survey Reading, Language, and Spelling tests;
- Correlations between Math CSTs, including grade-specific and end-of-course CSTs, and CAT/6 Survey Math CSTs;
- Correlations between end-of-course Science CSTs and CAT/6 Survey Science tests.

Tables 4.A.1 to 4.A.4 present correlations between 2004 CST and CAT/6 Survey test scores based on the entire population of examinees at each grade, for grades 2 through 11. The analysis was based on 2004 data because 2004 was the last year when CAT/6 Survey tests were administered at all grades. For each correlation index, the sample size, is provided immediately before the correlation in the tables.

CST ELA versus CAT/6 Survey Reading/Language/Spelling

In 2004 students from grades 2 through 11 were required to take ELA CSTs and the two CAT/6 Survey subject tests: Reading and Language. Examinees in grades 2 through 8 were also required to take CAT/6 Survey Spelling test. The specifications for the CAT/6 Survey test do not parallel those of the ELA CST. However, CAT/6 Survey Reading, Language, and Spelling tests measure relevant aspects of the ELA CST construct. Consequently, we might expect moderate to high correlations between the CAT/6 Survey tests and ELA CST. The results showed that ELA CST scores correlated highly with both CAT/6 Survey Reading and Language test scores across all grades, with correlations ranging from 0.75 to 0.80. The correlation coefficients between ELA CST and CAT/6 Survey Spelling tests were moderately high and ranged from 0.62 to 0.70. It must be noted that the CAT/6 Survey Spelling tests tended to correlate highly with ELA CST for examinees at lower grade levels. This can be attributed to spelling being an integral part of the language learning process for examinees at lower grade levels.

CST Math versus CAT/6 Survey Math

Math CSTs include grade-specific math tests as well as end-of-course subject tests, while CAT/6 Survey Math tests consist of grade-specific tests only. For grades 2 to 7, grade-specific CST and CAT/6 Survey Math tests were administered. For grades 8 and up, students took a CAT/6 Survey grade-specific Math test, but took one of the end-of-course math CSTs. The end-of-course CSTs included General Mathematics (GM), Algebra I and II, Geometry, Summative High School Mathematics (HSM), and Integrated Math 1, 2, and 3. The General Math CST could only be taken by students at grade 8 and 9 while all other end-of-course tests could be administered to students from grades 8 to 11. It was expected that the grade-specific Math CSTs would have a higher correlation with CAT/6 Survey Math tests for the corresponding grades. However, a lower correlation was expected between end-of-course CSTs and the corresponding CAT/6 Survey Math tests since the subject-specific Math CSTs were not intended to be parallel in constructs to CAT/6 Survey Math tests.

The results shown in Tables 4.A.2 and 4.A.3 show that the grade-specific Math CSTs (grades 2–7) and CAT/6 Survey Math tests had fairly high correlations ranging from 0.77 to 0.79. The General Math CST, which was taken only by grade 8 and 9 students, correlated moderately high with CAT/6 Survey Math test, with correlations of 0.73 and 0.64 for the two grades respectively. A decreasing trend in correlations between the Algebra I CST and CAT/6 Survey Math test was observed across grade levels (grades 8–11). The correlations between the tests ranged from 0.72 for grade 8 to 0.43 for grade 11. A similar trend was observed for the relationship between the Geometry CST and CAT/6 Survey Math, with correlations of 0.64, 0.66, 0.61, and 0.50 for grade 8, 9, 10, and 11, respectively. Both the Algebra II and Summative High School Math CSTs correlated moderately high with CAT/6 Survey Math tests with correlations between 0.60 and 0.79. All the Integrated Math CSTs exhibited a moderate correlation with the CAT/6 Survey Math tests for the corresponding grades, with correlations ranging from 0.43 to 0.66. This scenario was expected as the Integrated Math CSTs were not designed to measure constructs similar to CAT/6 Survey Math constructs.

CST Science versus CAT/6 Survey Science

CAT/6 Survey science tests were administered to examinees at grades 9, 10, and 11. Scores from these tests were correlated with the science end-of-course CSTs to provide evidence of convergent validity. The science end-of-course CSTs included Biology, Chemistry, Earth Science, Physics, and Integrated Science 1, 2, 3, and 4. As shown in Table 4.A.4, all science end-of-course CSTs correlated moderately high with the CAT/6 Survey Science tests across grades. The correlation coefficients ranged from 0.52 and 0.72. The alignment of the CSTs to the respective test blueprints and the relationship between CST and CAT/6 Survey test scores provides evidence for the validity of CSTs in their present use.

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Appendix 4.A — Test Correlations Tables

Table 4.A.1: Correlations between English-Language Arts CSTs and CAT/6 Survey Tests

Grades	Number of Examinees (N)	ELA(CST) / Reading (CAT/6)	ELA(CST) / Language (CAT/6)	ELA(CST) / Spelling (CAT/6)
2	468557	0.77	0.76	0.70
3	476748	0.77	0.75	0.68
4	479702	0.77	0.78	0.65
5	491129	0.78	0.77	0.63
6	478342	0.79	0.78	0.62
7	481875	0.80	0.78	0.62
8	483750	0.80	0.78	0.64
9	467253	0.76	0.76	N/A
10	435473	0.77	0.80	N/A
11	372637	0.76	0.76	N/A

Table 4.A.2: Correlations Between Grade-specific Mathematics CSTs and CAT/6 Survey Mathematics Tests

Grades	Number of Examinees (N)	Math (CST) / Math (CAT/6)
2	471270	0.77
3	479648	0.79
4	486385	0.78
5	483092	0.77
6	479050	0.78
7	485061	0.79

Table 4.A.3: Correlations between End-of-Course Mathematics CSTs and CAT/6 Survey Mathematics Tests

Grades	GM (CST) / MTH (CAT/6)		Algebra I (CST) / MTH (CAT/6)		Geometry (CST) / MTH (CAT/6)		Algebra II (CST) / MTH (CAT/6)	
	N	Correl.	N	Correl.	N	Correl.	N	Correl.
8	269630	0.73	188563	0.72	12432	0.64	453	0.72
9	133382	0.64	215774	0.63	89036	0.66	13161	0.61
10	N/A	N/A	128604	0.49	124253	0.61	77970	0.65
11	N/A	N/A	61488	0.43	68306	0.50	87167	0.60
Grades	**HSM (CST) / MTH (CAT/6)**		**Integrated M. 1 (CST)/ MTH (CAT/6)**		**Integrated M. 2 (CST)/ MTH (CAT/6)**		**Integrated M. 3 (CST) / MTH (CAT/6)**	
	N	Correl.	N	Correl.	N	Correl.	N	Correl.
8	N/A	N/A	366	0.57	209	0.60	13	0.64
9	595	0.79	3733	0.66	1742	0.65	175	0.54
10	10707	0.66	2459	0.44	3933	0.58	1425	0.61
11	68038	0.69	2632	0.43	1851	0.43	2726	0.62

Table 4.A.4: Correlations between End-of-Course Science CSTs and CAT/6 Survey Science Tests

Grades	Biology (CST) / Science (CAT/6)		Chemistry (CST) / Science (CAT/6)		Earth Science (CST) / Science (CAT/6)		Physics (CST) / Science (CAT/6)	
	N	Correl.	N	Correl.	N	Correl.	N	Correl.
9	121064	0.72	2248	0.68	90721	0.67	14635	0.64
10	198786	0.67	72589	0.68	21296	0.58	7606	0.69
11	69217	0.71	103536	0.64	19385	0.63	29370	0.70
Grades	**Integrated S. 1 (CST) / Science (CAT/6)**		**Integrated S. 2 (CST) / Science (CAT/6)**		**Integrated S. 3 (CST) / Science (CAT/6)**		**Integrated S. 4 (CST) / Science (CAT/6)**	
	N	Correl.	N	Correl.	N	Correl.	N	Correl.
9	73047	0.64	4152	0.62	1368	0.64	549	0.59
10	16765	0.52	15018	0.62	1847	0.58	714	0.53
11	8933	0.53	4778	0.58	2512	0.61	256	0.70

Chapter 5: Score Reports

This chapter describes the score reporting procedures and score-level analyses obtained for the spring 2005 administration of the California Standards Tests. The first section of the chapter describes the score scales, followed by a discussion on the types and purposes of score reports that are relevant to CSTs and the related STAR components. The second section focuses on the actual summaries of scores obtained on the spring 2005 administration of CSTs. Following the pattern of previous chapters, the results are reported for each subject area and for each grade within a subject area. The numbers in the summary tables may not be exactly the same with the results reported on the CDE Web site, as there may be slight differences in the samples used to compute the statistics.

Descriptions of Scores

Raw Score

The CST raw score is simply the sum of correct responses on the test items, as the items are scored on a 0–1 scale. For examinees taking the Writing CST in addition to the multiple-choice section on the English-language arts CST at grades 4 and 7, the number of points obtained on the Writing section are simply added to the multiple-choice raw scores. The essays are scored on a 0–4 scale by two readers. The Writing score is the sum of the two reader scores; potential writing scores are 0, 2–8.

Scale Score

Approximately half of the questions on CSTs are changed before each administration, thus resulting in different forms from year to year. Since one test form may be slightly more difficult or slightly easier than another, an equating process is used to adjust for the difficulty of the forms so that scores from year-to-year are comparable. As a result of this process, raw cut scores may differ from one form to another. Were raw scores used to report results, the user would have to know the form of the CST a student took and the cut score for that form of the test to determine the proficiency level of the student. The aggregation of raw scores from year to year would also not be meaningful. The conversion of raw scores to a common reporting scale that is consistent from year to year simplifies the interpretation and aggregation of data. This reporting scale for the CSTs ranges from 150 to 600 and is commonly known as “scale scores.”

Proficiency Levels

The CST performance for each student is categorized into one of the following proficiency levels:

far below basic
below basic
basic
proficient
advanced

For all CSTs, a scale score of 350 provides the cut score separating basic performance from proficient performance and a scale score of 300 differentiates basic performance from below basic performance. The cut scores defining the proficient/advanced and the below basic/far below basic boundaries vary somewhat from year to year and test to test.

Score Reporting

The tests that make up the STAR Program provide results or score summaries that are reported for different purposes. Four major purposes include:

1. Communicating with parents and guardians;
2. Informing decisions needed to support student achievement;
3. Evaluating school programs; and
4. Providing data for state and federal accountability programs for schools

A detailed description of the uses and applications of STAR reports is presented in the next section:

Score Report Applications

First, STAR Program results provide parents and guardians with information about their children's progress. The results are a tool for increasing communication and collaboration between parents, guardians, and teachers. Along with teacher report cards and information from school and classroom tests, the STAR Student Report can be used by parents and guardians to talk with teachers about ways to improve their children's achievement of the California content standards. Any discrepancies between performance reported on report cards and the scores reported on the STAR Student Report should also be discussed.

Second, schools may use the STAR Program results to make decisions about how best to support student achievement. STAR Program results, however, should never be used as the only source of information to make important decisions about a student's education. STAR Program results can be used, along with other school and school district reports and teacher generated information, to (1) make decisions about student promotion or retention; and (2) identify students who may be eligible for special programs.

Third, STAR Program results help school districts and schools identify strengths and weaknesses in their instructional programs. Each year, school districts and school staffs thoroughly examine STAR Program test results for groups and individual students for each grade level and subject tested. Their findings are used to help determine:

Instructional areas that can be improved for better student achievement

The extent to which students are learning the academic standards

Teaching strategies that can be developed to address needs of students

Decisions about how to use funds to ensure that students achieve the standards

Fourth, the results are used for State and federal accountability programs that monitor each school's progress toward achieving established goals. STAR Program results are used to calculate each school's Academic Performance Index (API). The API is a major component of California's Public School Accountability Act (PSAA) and is used to rank the academic performance of schools, compare schools with similar characteristics (e.g., size and ethnic makeup), identify low-performing and high-priority schools, and set yearly targets for academic growth.

STAR Program results also are used to comply with federal No Child Left Behind (NCLB) legislation that requires all schools to meet specific academic goals. The progress of each school toward achieving these goals is provided annually in an Adequate Yearly Progress (AYP) report. Each year, California schools must meet AYP goals by showing that a specified percentage of students, districtwide and at each school, are performing at or above the proficient level on the CSTs in English-language arts and

mathematics or the CAPA. At the high school level, the California High School Exit Examination (CAHSEE) results for grade ten students are used in place of the CSTs to make this determination.

Score Report Contents

The individual STAR Student Report provides overall scale scores, performance levels, and reporting cluster (or subscore) results for each CST. As mentioned earlier, overall scores are reported on a scale ranging from 150 to 600. Results for the CSTs also are reported by performance levels: advanced, proficient, basic, below basic, or far below basic. Each performance level indicates how well a student is achieving the State content standards tested. In addition, CST results are reported in clusters that describe how a student performs on a set of State content standards. Reporting cluster (or subscore) results compare an individual student's percent correct score to the average percent correct for the state, as a whole, and for the district where a student attended school. The range of proficient scores is also provided for each cluster score using a percent correct metric.

Reports for students with disabilities and English learners who use accommodations or modifications, include a notation about the test administration that indicates:

Student used accommodations, or

Student was tested with modifications

In addition to individual student reports, several other reports are also provided to different groups of stakeholders. A description of those reports is provided in Appendix 5.A on page 85.

Score Distributions and Summary Statistics

This section summarizes and reports the score level analyses including descriptive statistics on raw and scale scores, distribution of examinees in various scale score ranges, and the distribution of examinees in the five proficiency levels. The analyses were performed on the sets of valid scores on each CST. Prior to score reporting, the number of items for four CSTs — Geometry, Algebra II, Integrated Math 1 and Integrated Math 2 — was reduced by one item due to the discovery of two flawed items. One item appeared in both the Algebra II and Integrated Math 1 CSTs, and another was common to the Geometry and Integrated Math 2 CSTs.

The descriptive information including number of items on each CST, number of examinees taking the CST and the corresponding means and standard deviations of scores are presented in Table 5.1. Statistical indices are presented on both raw score scale and scale score scale, however, the decisions regarding an examinee performance are based on scale scores. The last two columns in the table list the raw score means and standard deviations as percentages of the total raw score points on the respective CSTs.

The results show that the mean raw score percents varied considerably across tests and ranged from 37.3% on the Integrated Science 3 CST to 72.9% on the mathematics CST administered at grade 2. The mean raw score percents on English-language arts were fairly consistent across grades ranging from a minimum of 57.5% at grades 6 and 11 to a maximum of 61.8 at grade 2. The scores on the end-of-course science CSTs were lower in general with lowest mean raw score percents obtained on the Integrated Science 1, 2, and 3 CSTs with respective values of 37.3%, 39.5% and 40.0%. Similar to CST administrations in previous years, highest mean scores were obtained on the mathematics CSTs at lower grades levels.

Table 5.1: Mean and Standard Deviation of Raw and Scale Scores for CSTs

Subject	CST	No. of Items	No. of Examinees	Scale Score		Raw Score		Raw Scr. Percent	
				Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
English-Language Arts	**2**	65	466,054	336	61	40.16	14.05	61.8	21.6
	3	65	473,158	324	61	39.34	13.16	60.5	20.2
	4	75	479,413	346	54	44.31	15.26	59.1	20.3
	5	75	485,359	340	56	45.33	14.81	60.4	19.7
	6	75	483,008	335	54	44.19	14.86	58.9	19.8
	7	75	481,346	337	55	44.23	14.63	59.0	19.5
	8	75	489,007	334	55	43.11	14.15	57.5	18.9
	9	75	512,712	340	60	43.18	15.17	57.6	20.2
	10	75	458,455	328	58	45.13	15.75	60.2	21.0
	11	75	407,408	323	64	43.14	15.52	57.5	20.7
History	**8**	75	487,088	324	55	35.77	13.38	47.7	17.8
	10	60	451,731	321	61	30.17	11.46	50.3	19.1
	11	60	400,563	329	64	30.03	11.84	50.1	19.7
Math	**2**	65	466,147	366	83	47.40	12.10	72.9	18.6
	3	65	472,847	362	78	46.22	12.25	71.1	18.8
	4	65	480,644	354	70	45.74	13.29	70.4	20.4
	5	65	485,291	350	89	39.80	13.99	61.2	21.5
	6	65	482,447	340	70	39.10	13.61	60.2	20.9
	7	65	481,761	334	66	35.46	13.26	54.6	20.4
	General Math	65	368,957	310	52	30.82	11.22	47.4	17.3
	Algebra I	65	675,464	308	55	27.57	10.23	42.4	15.7
	Geometry	64	331,509	315	66	34.28	12.89	53.6	20.1
	Algebra II	64	195,481	314	63	32.80	11.68	51.3	18.3
	High School Math	65	90,632	346	71	43.94	11.81	67.6	18.2
	Integrated Math 1	64	8,503	276	50	24.77	9.05	38.7	14.1
	Integrated Math 2	64	6,653	325	54	29.13	10.53	45.5	16.5
	Integrated Math 3	65	3,551	328	67	32.93	11.06	50.7	17.0
Science	**Grade 5 Science**	60	484,500	325	48	30.28	10.48	50.5	17.5
	Biology	60	451,532	331	46	30.92	11.24	51.5	18.7
	Chemistry	60	196,248	327	45	31.41	10.98	52.4	18.3
	Earth Science	60	172,443	319	43	28.56	11.01	47.6	18.4
	Physics	60	59,149	326	48	31.27	11.82	52.1	19.7
	Integrated Science 1	60	110,724	300	32	23.99	8.49	40.0	14.2
	Integrated Science 2	60	20,563	298	29	23.72	7.63	39.5	12.7
	Integrated Science 3	60	3,398	300	30	22.39	7.85	37.3	13.1
	Integrated Science 4	60	1,031	316	44	29.55	11.16	49.3	18.6

The proportions of students in various proficiency categories are presented in Table 5.2. The last column on the table presents the overall proportion of examinees that qualified for the proficient or advanced levels.

Table 5. 2: Percentage of Examinees in Proficiency Levels for CSTs

Subject	CST	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Proficient/ Advanced
English-Language Arts	**2**	11%	19%	28%	28%	14%	42%
	3	15%	22%	31%	22%	10%	32%
	4	8%	14%	31%	27%	20%	48%
	5	11%	14%	32%	26%	17%	43%
	6	10%	17%	34%	24%	14%	38%
	7	10%	17%	30%	30%	13%	43%
	8	10%	19%	33%	24%	15%	39%
	9	10%	19%	28%	23%	20%	43%
	10	15%	19%	30%	22%	14%	36%
	11	20%	17%	27%	23%	13%	36%
History	**8**	18%	21%	30%	20%	11%	31%
	10	25%	15%	29%	19%	12%	31%
	11	20%	18%	25%	23%	14%	36%
Math	**2**	5%	17%	22%	28%	28%	56%
	3	4%	19%	22%	31%	24%	55%
	4	5%	19%	25%	24%	26%	50%
	5	12%	20%	24%	26%	19%	45%
	6	8%	25%	27%	26%	14%	40%
	7	10%	25%	27%	24%	13%	37%
	General Math	15%	31%	32%	19%	3%	22%
	Algebra I	14%	37%	30%	16%	3%	19%
	Geometry	13%	33%	27%	18%	8%	26%
	Algebra II	19%	27%	27%	20%	6%	26%
	High School Math	5%	22%	27%	32%	13%	46%
	Integrated Math 1	32%	44%	17%	6%	1%	8%
	Integrated Math 2	7%	27%	36%	23%	6%	29%
	Integrated Math 3	10%	25%	33%	25%	7%	32%
Science	**Grade 5 Science**	11%	23%	38%	23%	5%	29%
	Biology	9%	18%	41%	23%	9%	32%
	Chemistry	10%	20%	42%	20%	7%	27%
	Earth Science	18%	22%	37%	18%	6%	23%
	Physics	17%	18%	34%	22%	9%	31%
	Integrated Science 1	20%	32%	40%	7%	1%	7%
	Integrated Science 2	21%	33%	40%	5%	1%	5%
	Integrated Science 3	18%	37%	37%	7%	1%	8%
	Integrated Science 4	20%	18%	37%	21%	5%	25%

The table shows that the examinees that qualified for the proficient or advanced levels of performance varied notably across CSTs in the subject area of mathematics. The largest percentage of such examinees was found at grades 2 to 4 where more than 50% of examinees qualified for this level of proficiency. Very few examinees reached that level for the end-of-course CSTs in both math and science except for the Summative High School Math CST, where 46% examinees qualified for this

category. For all grade-specific CSTs for ELA, mathematics, and history-social science, more than 30% of the examinee population was considered proficient or advanced on a particular test.

A large number of examinees qualified for the basic level of performance and the number remained fairly consistent across all ELA, math, and history-social science CSTs. This proportion fell in the range of 22% to 33% for the majority of those tests. Science CSTs, however, exhibited larger proportion of examinees qualifying for the basic level ranging from 37% for Integrated Science 3 and 4, to 42% for the Chemistry CST.

The number of examinees who performed at the below basic or far below basic level was considerably small except for the Integrated Math 1 CST, where approximately 76% of the examinees performed at that level. Three out of four Integrated Science CSTs (1, 2, 3) also exhibited substantial percentages (52% to 55%) of examinees at the lower proficiency levels.

Tables 5.B.1 through 5.B.5 in Appendix 5.B on page 87 show the distribution of scale scores by CST. The tables show the distribution of examinees at 15 scale score intervals for the 36 CSTs. The scale scores range from 150 to 600, resulting in 30 scale score points within each interval. These distributions indicated that, although CST scale scores extend to 600 for all CSTs, for most tests very few students scored higher than 510 or lower than 210. The policy of setting the highest possible raw score to 600 and the lowest possible score to 150 was introduced by the CDE for the 2003 and later administrations. In years prior to 2003, CST scale scores could extend as high as 752 and as low as 0. This accounts for the apparent amassing at the top of the scale for many CSTs. The distributions presented in Appendix 5.B on page 87 indicate that similar to 2003 and 2004, the scale truncation affected very few students in the current administration.

References

California Department of Education, "STAR Reports." www.startest.org/reports.html.

Appendix 5.A — Types of Score Reports Tables

Table 5.A.1: Score Reports Reflecting CST Results

Score Reports Reflecting CST Results		
Report	**Description**	**Distribution**
Student Report	This report provides parents/guardians and teachers with the student's results in tables and graphs. It mainly includes: Scale scores Performance levels Comparison of the student's percent correct score to the average percent correct for the state, as a whole, and for the district where a student attended school. The range of proficient scores is also provided for each cluster score using a percent-correct metric.	This report includes individual student results and is distributed only to parents/guardians and the student's school.
Student Record Label	These reports are printed on adhesive labels and can be affixed to the student's permanent school records. Each pupil shall have an individual record of accomplishment that includes CST results. The significant information includes: Scale scores Performance levels	These reports include individual student results, and are distributed only to the student's school.
Student Master List	This report provides administrators and teachers with a quick reference to results within each grade or within each grade and year-round schedule at a school. This report is an alphabetical roster of individual student results and includes: Percent correct for each reporting cluster Scale scores Performance levels	This report includes individual student results and is only distributed to the student's school.

Report	Description	Distribution
Student Master List Summary	This report summarizes student results at the school-, district-, county-, and state-level for each grade. It does *not* include any individual student information. The following data is summarized by subject area: Number of students enrolled Number and percent of students tested Number and percent of valid scores Mean percent correct Mean scale score Scale score standard deviation Number and percentage of students scoring at each performance level Number of items for each reporting cluster and the mean percent correct	This report is a resource for evaluators, researchers, teachers, parents/guardians, community members, and administrators. One copy is sent to the school and one to the district. This report is also produced for districts, counties, and the State.

Appendix 5.B — Scale Score Distribution Tables

Table 5.B.1: Distribution of CST Scale Scores for English-Language Arts

Scale Score	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
570 – 600	743	451	76	165	77	20	22	257	101	83
540 – 569	0	0	198	712	366	82	134	0	0	0
510 – 539	2235	1547	454	0	0	185	401	656	534	292
480 – 509	4224	3006	2307	4203	2639	1410	2495	3661	1340	2116
450 – 479	6105	10057	9042	9047	6525	7116	5596	13757	6324	5510
420 – 449	27237	14883	31161	28915	24432	22191	21349	31833	18956	15567
390 – 419	47297	39173	64700	47682	45011	61840	51400	61729	47242	39163
360 – 389	72987	57171	91621	84812	83780	83931	74287	75413	71927	64927
330 – 359	85816	83246	84773	93026	93375	93564	99057	91011	75217	61136
300 – 329	77478	88861	90860	95381	93405	82554	95149	85017	80602	66682
270 – 299	62192	77256	67195	73303	75789	68819	82581	76573	71449	50654
240 – 269	65215	59590	34104	41372	49444	46684	45431	62502	61442	56849
210 – 239	13483	34681	2755	6238	7875	12089	10566	9467	22252	36653
180 – 209	986	3012	115	448	245	826	488	727	999	7268
150 – 179	56	224	52	55	45	35	51	109	70	508

Table 5.B.2: Distribution of CST Scale Scores for History-Social Science

Scale Score	Grade 8	Grade 10	Grade 11
570 – 600	301	446	716
540 – 569	396	724	839
510 – 539	535	1162	1312
480 – 509	3194	3714	3917
450 – 479	5932	6023	9249
420 – 449	17109	19190	19297
390 – 419	32581	28938	36124
360 – 389	61892	57816	55174
330 – 359	78294	67504	58562
300 – 329	96114	85737	60881
270 – 299	103888	83464	73020
240 – 269	77194	67306	59422
210 – 239	9251	25131	19387
180 – 209	354	4316	2400
150 – 179	53	260	263

Table 5.B.3: Distribution of CST Scale Scores for Mathematics Grade 2 through 7

Scale Score	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
570 – 600	4760	3871	4163	9326	1947	2104
540 – 569	9788	8184	0	7219	3757	0
510 – 539	13188	11439	9091	8196	5313	5033
480 – 509	15809	13394	12988	17933	6345	3536
450 – 479	34476	30223	15061	29136	15435	14837
420 – 449	35602	32361	33645	30237	26757	27175
390 – 419	66089	63632	68200	41181	49326	43909
360 – 389	57610	71004	74104	51877	63280	60329
330 – 359	71457	72477	78939	62676	76493	76078
300 – 329	56205	57840	68209	72551	75976	77418
270 – 299	42899	52422	61015	60896	81807	84272
240 – 269	33749	35306	36905	55311	57761	66331
210 – 239	16577	16349	16011	29943	16410	19133
180 – 209	6506	3959	2192	7780	1719	1438
150 – 179	1432	386	121	1029	121	168

Table 5.B. 4: Distribution of Scale Scores for Mathematics End-of-Course CSTs

Scale Score	General Math	Algebra I	Geometry	Algebra II	Summative H.S. Math	Integrated Math 1	Integrated Math 2	Integrated Math 3
570 – 600	26	665	647	339	324	9	9	16
540 – 569	48	1095	1328	390	763	8	5	5
510 – 539	94	814	1875	539	1214	6	19	37
480 – 509	502	3592	2364	1618	1541	19	33	35
450 – 479	1266	6067	5703	2311	3805	28	72	105
420 – 449	6570	13195	10632	6843	4507	49	196	104
390 – 419	18750	34489	22889	10051	10163	125	481	265
360 – 389	38224	46069	28855	20954	13714	264	798	392
330 – 359	61448	97925	48144	28307	16110	558	1118	615
300 – 329	71450	127984	54686	33985	13980	1026	1616	724
270 – 299	78177	187177	62196	41367	12337	1862	1423	600
240 – 269	68239	124262	57540	27237	6969	2809	740	420
210 – 239	22436	28843	30860	17337	3833	1368	115	167
180 – 209	1558	2944	3544	3786	1163	316	24	51
150 – 179	169	343	246	417	209	56	4	15

Table 5.B.5: Distribution of CST Scale Scores for Science

Scale Score	Grade 5	Biology	Chemistry	Earth Science	Physics	Integrated Science 1	Integrated Science 2	Integrated Science 3	Integrated Science 4
570 – 600	26	279	109	11	6	0	0	0	0
540 – 569	118	0	0	0	0	0	0	0	0
510 – 539	341	656	293	34	27	2	0	0	0
480 – 509	1595	1167	479	96	74	3	0	2	0
450 – 479	3509	6153	1563	527	410	22	5	0	1
420 – 449	10172	10417	3838	1890	1473	97	20	1	9
390 – 419	30072	28091	11156	7570	4446	665	91	20	51
360 – 389	68308	63540	26410	19315	8778	3762	491	125	117
330 – 359	94980	96664	43400	35887	11267	13916	2094	398	215
300 – 329	112295	120932	49351	39673	11993	33923	6651	984	252
270 – 299	109297	91951	43618	48939	14471	40540	7795	1435	216
240 – 269	45044	30159	14764	17298	5768	15164	3173	410	160
210 – 239	8468	1454	1217	1146	415	2493	232	22	9
180 – 209	217	44	43	46	20	127	7	1	1
150 – 179	58	25	7	11	1	10	4	0	0

Chapter 6: Test Fairness

In order to ensure equity and accountability among various subpopulations, comprehensive analyses were conducted for spring 2005 administration of the California Standards Tests. This chapter summarizes the subgroup analyses performed at the test level. Detailed item level analyses were also conducted when sufficient sample sizes were available on a subgroup. In addition, analyses are presented related to students with physical and learning disabilities who took the test under standard or modified conditions.

The chapter is, therefore, divided into two major sections. The first section presents the summary of statistics obtained on various demographic indicators, while the second section discusses the distributions of examinees grouped by accommodation provisions. Following the pattern of previous chapters, all analyses are replicated for each grade within a subject area.

Since assuring test security is crucial in sustenance of a fair test, the chapter also briefly describes procedures for ensuring test security.

Demographic Distributions

Table 6.1 on page 91 presents a listing of various subgroups included in this chapter, along with their definitions. Summary statistics for all students, and for subgroups based on demographic variables presented in Table 6.1, are discussed in this section. The demographic variables examined included gender, ethnicity, language fluency, economic disadvantage, and special education programs.

The results of the demographic-based analyses are presented in Tables 6.A.1 through 6.A.36 starting on page 103. These tables include number of students tested for whom valid scores were available, mean scale scores, standard deviation of scale scores, and percentages of students in various proficiency levels, as well as mean percent correct scores within each reporting cluster. Note that the statistics in these tables differ slightly from the statewide statistics reported on the CDE Web site because students testing with invalid scores are excluded rather than added into the below basic category.

The number of males testing was consistently higher than females for a majority of the tests across the various subject areas. In a large number of cases, the number of males exceeded the number of females by 3 to 4%; however, the percentage was much higher for General Math, Integrated Math 1, and some of the upper-level science CSTs. On the other hand, considerably more females than males took the Geometry, Algebra II, Summative High School Math, Biology, and Chemistry CSTs. The largest difference between these numbers existed for Chemistry, where 18% more females than males took the CST. The percentages of students classified into various proficiency levels as well as the mean scale scores indicated that females performed considerably better than males across all ELA CSTs. These differences in performance were more significant at the higher grades.

Table 6.1: Subgroup Definitions

Subgroup	Definition
Gender	Male Female
English Language Fluency	English-Language Fluency Initially Fluent - English Proficient English Learner Redesignated Fluent-English Proficient
Ethnicity	African American American Indian or Alaska Native Asian o Chinese o Japanese o Korean o Vietnamese o Asian Indian o Laotian o Cambodian o Other Asian Filipino Hispanic or Latino Pacific Islander o Native Hawaiian o Guamanian o Samoan o Tahitian o Other Pacific Islander White (not Hispanic)
Economic Status	Economically Disadvantaged (NSLP) Non-Economically Disadvantaged
Special Education Services	Special Education Services o Class Size Reduction Option 1, 2 o Migrant Education o Indian Education o Gifted and Talented o ESEA Title 1 School wide, Targeted o English Learner in ELD o English Learner in ELD and SDAIE o English Learner in ELD and SDAIE with Primary Language Support o English Learner in ELD and Academic Subjects with Primary Language Support No Special Education Services

Males performed slightly higher than females on the grades 2, 3, and 6 math CSTs, and on the Geometry, Algebra II, and Integrated Math 2 and 3 CSTs; while females outperformed males on the grades 5 and 7 math CSTs, and on the General Math, Algebra I, and Integrated Math 1 CSTs. Males performed considerably better than females on the Summative High School Math CST, where males outperformed females by 5%. For all science CSTs, males outperformed females, except for on the Biology CST, where females performed slightly higher than males.

Among various ethnic groups, Hispanics constituted the largest testing population. The approximate percentage of Hispanic examinees was about 40 to 50% across various CSTs, followed by White examinees who constituted 30 to 40% of the examinee population. This pattern was observed for a majority of the CSTs in all content areas. The Asian examinees constituted the next largest group (8–10%). In terms of performance, Asian, White, and Filipino groups consistently scored higher than the other groups. In general, Hispanic and African-American groups performed lower than the other groups, especially on the higher-level assessments.

A notably large proportion of students were declared as economically disadvantaged and were included in National School Lunch Program (NSLP). Approximately 50 to 60% of the total examinee population was enrolled in this program at lower grade levels. This proportion decreased as the grades progressed; 35 to 45% of the examinees who took ELA, math, and history-social science CSTs at higher levels utilized this service, as did 30 to 40% for Integrated Math 2 and a majority of science CSTs. Exceptions to this pattern were the Algebra II, Summative High School Math, and Integrated Math 3 CSTs, where fewer examinees registered for NSLP (27%, 21%, and 27% respectively). The performance of examinees that did not enroll for NSLP was considerably and consistently higher, as expected.

The percentage of examinees classified as English learners ranged from 15 to 25% across majority of CSTs. However, the number of English learners was notably higher for students in grades 2, 3, and 4 for both math and ELA, where the representation ranged from 31 to 37% of the overall examinee population. The number of English learners was considerably lower in the population taking the Algebra II, Summative High School Math, Integrated Math 3, Chemistry, and Physics CSTs. Means were higher for examinees that were redesignated as fluent in English at a majority of the lower grade levels. On the other hand, means were higher for examinees that were initially designated as fluent in English for middle- to high-level assessments.

The approximate percentage of students who received special education services ranged from 8 to 11% for all ELA CSTs, low- to middle-level mathematics CSTs, and a majority of science CSTs. The exception to this pattern was the General Mathematics CST, where special education students constituted 15% of the overall examinee population. A considerably lower proportion of students taking chemistry, physics and a majority of the high level end-of-course mathematics assessments received special education services.

Test Variations, Accommodations and Modifications

All students participate in the STAR Program, including students with disabilities and English learners. Most students with disabilities and English learners take the California Standards Tests under standard conditions. Some students with disabilities and English learners, however, may need assistance when taking the CSTs. This assistance takes the form of test variations, accommodations, or modifications. All students in these categories may have test administration directions simplified or clarified. In addition, all eligible students may have test variations if they are regularly used in the classroom. They also must be allowed to use the accommodations and modifications that are specified in each student's

IEP or Section 504 Plan. These accommodations and/or modifications must match the one(s) used for classroom work throughout the year.

Test variations, accommodations, and modifications for the statewide assessments, including the STAR Program, are defined as follows:

Category 1: Test Variations

Eligible students may have test variations if regularly used in the classroom. For example, students may be tested in a smaller group or individually, have special lighting or adaptive furniture, or use magnifying equipment.

Category 2: Accommodations

Eligible students are permitted to take the CSTs with accommodations if specified in the student's IEP or Section 504 Plan for use on the CSTs or for use during classroom instruction and assessment. Examples of accommodations are large-print or braille versions of the CSTs or providing more than one day for a test designed for a single sitting.

Category 3: Modifications

Eligible students are permitted to take the CSTs with modifications if specified in the student's IEP or Section 504 Plan for use on the CSTs or for use during classroom instruction and assessment. Examples of modifications include an examiner's reading the reading test to the student or a student's using a calculator to perform computations on the mathematics test.

Appendix 6.B on page 139 presents the Matrix of Test Variations, Accommodations, and Modifications for Administration of California Statewide Assessments. The matrix provides a complete list of the variations, accommodations, and modifications that are allowed under the STAR Program.

Accommodations change the way that the test is given but do not change what is tested. Modifications fundamentally change what is being tested. The purpose of test variations, accommodations, and modifications is to enable the students to take the CSTs, not to give them an advantage over other students or to improve their scores. Test administration variations and accommodations do not result in changes to the students' scores for API or AYP calculations. Scores for students tested with modifications are counted as far below basic for API calculations and not proficient for AYP calculations.

Students with IEPs in grades 3 through 11 may be tested below level if they are receiving instruction at a lower grade level than their enrollment grade. Students in grade 3 may be tested one grade below level, and students in grades 4 through 11 may be tested one or two grades below level. The IEP team determines the grade-level CST that is to be used, and the test level must be included in the student's IEP.

Accommodation Summaries

The percentage of students utilizing various testing accommodations during the 2005 administration of all 36 CSTs is presented in Appendix 6.C on page 142. The data is organized into three sections within each table. The first section presents the percentages of students for the total testing population. The next section presents the results for Special Education and non-Special Education students. The final section presents the results for various categories based on English language proficiency. Most

accommodations are common across CSTs; one exception to this is the grades 4 and 7 ELA CSTs, which also include accommodations related to the essays.

Examinees at lower and middle grade levels who utilized various accommodations and modifications constituted approximately 2 to 4% of the overall examinee population. Fewer examinees (less than 1 to 2%) made use of these services for higher level assessments. As expected, a significantly large percentage of Special Education students made use of the accommodations regardless of the grade and CST administered as compared to the non-Special Education students. For students who were classified based on English fluency, the two groups where larger numbers of students used any modification or accommodation were the groups defined as "English only" and "English learner" groups. English learners generally used these services more frequently than the other group; however, for grades 2 and 3, examinees classified as "English only" used these services more often. For each of the two groups, the percentage of examinees making use of accommodations or modifications remained less than 4% for majority of the CSTs. The exception to this scenario was observed for the Integrated Math 1 CST, where 7% of the English learners and 5% of the "English only" examinees utilized any accommodation or modification.

Of all those students making use of the accommodations, the largest percentage used IEP accommodations and the next largest percentage used IEP modifications. This pattern was consistent with previous years.

DIF Analyses

Differential Item Functioning (DIF) analyses measure differences in item performance between different demographic groups of students who have similar overall test performance.

DIF analyses were performed on all operational items and all field-test items for which sufficient student samples were available. The sample size requirements for the field-test DIF analyses were 100 in the focal group and 400 in the combined focal and reference groups. These sample sizes were based on standard operating procedures with respect to DIF analyses at ETS. The DIF analyses utilized the Mantel-Haenszel DIF statistic (Holland and Thayer, 1985). This statistic is based on the estimate of constant odds ratio and is described as:

$$MH\ D\text{-}DIF = -2.35 \ln[\alpha_{MH}] \tag{6.1}$$

The α_{MH} is the constant odds ratio taken from Dorans and Holland (1993, equation 7) and computed as:

$$\alpha_{MH} = \frac{\left(\sum_m R_{rm} \frac{W_{fm}}{N_{tm}}\right)}{\left(\sum_m R_{fm} \frac{W_{rm}}{N_{tm}}\right)} \tag{6.2}$$

where,

R = number right,

W = number wrong,

N = total in:

$_{fm}$ = focal group at ability level m,

$_{rm}$ = reference group at ability level m, and

$_{tm}$ = total group at ability level m.

Items analyzed for DIF at ETS are classified into one of three categories, A, B, or C. Category A contains items with negligible DIF. Category B contains items with slight to moderate DIF. Category C contains items with moderate to large values of DIF. These categories have been used by all ETS testing programs for more than 12 years. The definitions of the categories based on evaluations of the item-level MH D-DIF statistics is as follows:

DIF Category	Definition
A (negligible)	MH D-DIF not significantly different from zero, or has an absolute value less than one.
B (moderate)	MH D-DIF is significantly different from zero, and is either (1) less than 1.5; or (2) not significantly different from one.
C (large)	MH D-DIF is significantly different from one, and has an absolute value greater than 1.5.

The groups studied for DIF were based on gender, ethnicity and level of English proficiency[6]. The results of the DIF analyses are presented in Appendix 6.D, page 216. Table 6.D.1 represents the operational items exhibiting significant negative DIF. Table 6.D.2 represents the same results for the field-test items. Test developers have been instructed to avoid selecting field-test items flagged as having shown DIF that disadvantage a focal group (C-DIF) for future operational test forms unless their inclusion is deemed essential to meeting test-content specifications.

Tables 6.D.3 to 6.D.38 summarize the DIF category classifications for operational items in each CST based on the A, B, or C classifications. In these tables, classifications of B- or C- indicate DIF against a focal group and classifications of B+ and C+ indicate DIF in favor of a focal group. The last two columns of each table summarize the numbers of questions classified as C- for one or more comparisons. Tables 6.D.39 to 6.D.74, summarize the DIF category classifications for the field-test items. Both sets of tables are presented for all 36 CSTs. The results of the two additional field tests (Grade 8 Science and Life Science) that were field-tested in 2005, are presented in Tables 6.D.75 and 6.D.76.

[6] Analyses of English learners on the English-language arts CSTs were not carried out because differential performance due to language difficulties of non-native speakers does not indicate that an item is unfair or biased.

Test Security and Confidentiality

All tests within the STAR Program are secure documents. For the 2005 administration, every person having access to test materials maintains the security and confidentiality of the tests. ETS' Code of Ethnics requires that all test information, including tangible materials (such as test booklets), confidential files, processes, and activities are kept secure. ETS has systems in place that maintain tight security for test questions and test results, as well as student data. To ensure security for all the tests that ETS develops or handles, ETS maintains an Office of Testing Integrity (OTI), as discussed below.

ETS's Office of Testing Integrity (OTI)

The Office of Testing Integrity (OTI), is a division of ETS that provides Quality Assurance and resides in the ETS Legal Department. The Quality Assurance division publishes and maintains *ETS Standards for Quality and Fairness,* which supports OTI's goals and activities. The purposes of the *ETS Standards for Quality and Fairness* are to help ETS design, develop, and deliver technically sound, fair, and useful products and services, and to help the public and auditors evaluate those products and services.

OTI's mission is to

- € Prevent and minimize any testing security violations that can impact the fairness of testing.
- € Prevent and investigate any security breach.

  Report on security activities.

OTI helps prevent misconduct on the part of test takers and administrators, detect potential misconduct through empirically established indicators, and resolve situations in a fair and balanced way that reflects the laws and professional standards governing the integrity of testing.

Test development

During the test development process, ETS staff members consistently follow these established security procedures:

- € Only authorized individuals have access to test content at any step in the development, review, and data analysis processes.
- € Test developers keep all hard-copy test content, computer disk copies, art, film, proofs, and plates in locked storage when not in use.
- € ETS shreds working copies of secure content as soon as they are no longer needed during the development process.
- € Test developers take further security measures whenever they share items outside of ETS, including registered, secure mail, express delivery, and tracking records of sending and receipt of any test materials.

Item review

ETS enforces security measures at ARP meetings to protect the integrity of meeting materials using these guidelines:

- € Individuals who participate in the ARPs must sign the confidentiality agreement.
- € Meeting materials are strictly managed before, during and after the review meetings.
- € Meeting participants are supervised at all times during the meetings.
- € Use of electronic devices is strictly prohibited in the meeting rooms.

Item bank

At the same time that test booklets are readied for assessment review, items are placed in the item bank. ETS meets with CTB representatives to receive guarantees and documentation of their secure practices in dealing with the item bank.

The items are updated based on reviews, field-testing, and statistics on operational items. However, only the latest version of the item is in the bank at any time along with the administration data from every administration that has included a particular item. Security of the electronic item banking system is of critical importance. The measures that ETS takes for assuring the security of electronic files include the following:

- Electronic forms of test content, documentation, and item banks are backed up electronically, with the backups kept offsite, to prevent loss from system breakdown or a natural disaster.
- The offsite backup files are kept in secure storage with access limited to authorized personnel only.
- To prevent unauthorized electronic access to the item bank, state-of-the-art network security measures are used.

ETS routinely maintains many secure electronic systems for both internal and external access. The current electronic item-banking application includes a login/password system to authorize access to the database or designated portions of the database. In addition, only users authorized to access the specific SQL database will be able to use the electronic item banking system. A designated administrator at the CDE and at ETS will authorize users.

Transfer of forms and items to CDE

ETS shares a File Transfer Protocol (FTP) site with CDE. FTP is a standard method for exclusive routing of files. It is a password-protected web site that only authorized users may access. On that site, ETS posts Word, PDF, or other document files for CDE to review. ETS sends an e-mail to CDE to notify them that files are posted. Item data are always transmitted in an encrypted format via the FTP site, never via e-mail.

Firewall

A firewall is software that prevents entry to files, e-mail, and other organization-specific programs from unauthorized users or computers. All ETS data exchange and internal e-mails remain within the ETS firewall at all ETS locations, from Princeton to San Antonio to Sacramento. The CDE has and will continue to view and approve ETS-developed programs such as for Ordering or Pre-ID at ETS's Sacramento office when the programs remain behind ETS's firewall before release. No hacker has ever broken into ETS's firewall.

Printing

After items and test forms are approved, the files are sent for printing on a CD via a secure courier system, such as FedEx. According to established procedures, OTI pre-approves all printing vendors before they can work on secured confidential and proprietary test material. The printing vendor must submit a completed ETS Printing Plan and Typesetting Facility Security Plan, which documents security procedures, access to test materials, work in progress, personnel procedures, and access to the facilities by the employees and visitors. After reviewing the completed plan, members of the OTI visit the printing vendor to conduct an onsite inspection. The secured printing vendor packs and ships printed test booklets to Pearson Educational Measurement (PEM) for packaging and distribution in a tight and precise way to prevent boxes from opening.

Test administration

PEM receives testing materials from printers, packages them, and sends them to districts. After testing, districts return materials to PEM for scoring. During all these stages, PEM takes extraordinary measures to protect testing materials. PEM's customized Oracle business applications will verify that inventory controls are in place from materials receipt to packaging. The reputable carriers used by PEM provide specialized handling and delivery service that maintain test security and meet the CST program schedule. The carriers provide inside delivery directly to the district STAR coordinators or authorized recipients of the assessment materials.

Test Delivery

Test security requires accounting for all secure materials before, during, and after each test administration. The district STAR coordinators are, therefore, required to keep all test materials in central locked storage except during actual test administration times. Test site coordinators are responsible for accounting for and returning all secure materials to the district coordinator, who is responsible for returning them to the STAR Scoring and Processing Centers. More specifically:

- District STAR coordinators have to sign and submit a STAR Security Agreement to the STAR Technical Assistance Center (STAR TAC) before ETS can ship any testing materials to the district.
- Test site coordinators have to sign and submit a STAR Security Agreement to the district STAR coordinator before any testing materials can be delivered to the school/test site.
- Anyone having access to the test materials sign and submit a STAR Security Affidavit to the test site coordinator before receiving access to any testing materials.

It is the responsibility of each person participating in the STAR Program to report immediately any violation or suspected violation of test security or confidentiality. The test site coordinator is responsible for immediately reporting any security violation to the district STAR coordinator. The district STAR coordinator is to contact the CDE immediately and will be asked to follow up with a written explanation of the violation or suspected violation.

Any irregularities in test security may result in invalidation of student test results.

Processing and Scoring

An environment that promotes the security of the test prompts, student responses, data, and employees is of utmost concern to PEM throughout the project. PEM requires the following standard safeguards for security at their sites:

- There is controlled access to the facility.
- No test materials may leave the facility during the project without the permission of a person or persons designated by the CDE.
- All scoring personnel must sign a nondisclosure and confidentiality form in which they agree not to use or divulge any information concerning tests, scoring guides, or individual student responses.
- All staff must wear Pearson Educational Measurement identification badges at all times in PEM facilities.
- No recording or photographic equipment is allowed in the scoring area without the consent of the CDE.

The completed and scored answer documents are then stored in secure warehouses. The only time they are touched then is if there is a dispute of a score. For example, districts or parents may request rescoring of a student's test. In such a case, a grade two and three test booklet or grade 4–11 answer document is removed from storage, copied, and sent securely to Concord for handscoring, after which the copy is destroyed. No school or district personnel are allowed to look at the completed answer documents.

All answer documents and test booklets are destroyed after October 31 each year.

Transfer of scores via secure data exchange

After scoring is completed, PEM sends files to ETS and follows secure data exchange procedures. PEM provides overall security for assessment materials through its limited-access facilities and through its secure data processing capabilities. PEM enforces stringent procedures to prevent unauthorized attempts to access their facilities. Entrances are monitored by security personnel and a computerized badge-reading system is utilized. Upon entering the facilities, all PEM employees are required to display identification badges that must be worn at all times while in the facility. Visitors must sign in and out, are assigned a visitor badge, and are escorted by PEM personnel while at the facility. Access to the Data Center is further controlled by the computerized badge-reading system that allows entrance only to those employees who possess the proper authorization.

Data, electronic files, test files, programs (source and object) and all associated tables and parameters are maintained in secure network libraries for all systems developed and maintained in a client server environment. Only authorized software development employees are given access as needed for development, testing and implementation, in a strictly controlled Configuration Management environment.

For mainframe processes, PEM utilizes Random Access Control Facility (RACF) to limit and control access to all data files (test and production), source code, object code, databases, and tables. RACF controls who is authorized to alter, update, or even read the files. All attempts to access files on the mainframe by unauthorized users are logged and monitored. In addition, PEM uses ChangeMan, a mainframe configuration management tool, to control versions of the software and data files. ChangeMan provides another level of security, combined with RACF, to place the correct tested version of code into production. Unapproved changes are not implemented without prior review and approval.

ETS and PEM have implemented procedures and systems to provide efficient coordination of secure data exchange. This includes the established secure FTP site that is used for secure data transfers between ETS and PEM. These well-established procedures provide timely, efficient, and secure transfer of data. Access to the STAR data files is limited to appropriate personnel with direct project responsibilities.

Statistical Analysis

Encrypted files of student results from PEM are transferred to statisticians via secure 1028-bit T1 lines for equating and scaling. Encryption scrambles data based on a key. T1 lines have the benefit of allowing only designated people to use them. Statistical analysis then keep the files within the ETS programs and follow the ETS Code of Ethics to prevent any unauthorized access. The files with the statistical data and keys are returned to PEM also using the same T1 line.

Reporting and Posting Results

After statistical analysis is completed for student results, the files flow into three different directions. Paper reports, some with individual student results and others with summary results are produced. Encrypted files of summary results are also sent to CDE via FTP. Any summary results that have less than ten students are not reported. The statistics from the results are also entered into the item bank.

Student Confidentiality

To meet NCLB and State requirements, districts must collect demographic data about students, such as ethnicity, parent education, disabilities, whether the student qualifies for the school lunch program, etc. In addition, students may reveal other information about themselves through the essays they write. ETS takes precautions to prevent any of this information becoming public or being used other than for testing purposes. This part of the plan describes procedures for:

- Pre-ID files
- Reports
- Essays

Test Results

ETS also has security measures for files and reports that show students' scores and performance levels. ETS is committed to safeguarding the information in their possession from unauthorized access, disclosure, modification, or destruction. ETS has strict information security policies in order to protect the confidentiality of ETS and client data. ETS staff access to production databases is very limited. User ids for production systems must be person-specific or for systems use only.

ETS has implemented network controls for routers, gateways, switches, firewalls, network tier management, and network connectivity. Routers, gateways, and switches represent points of access between networks. However, these do not contain mass storage or represent points of vulnerability, particularly to unauthorized access or denial of service. Routers, switches, firewalls, and gateways may possess little in the way of logical access.

ETS has many facilities and procedures that protect computer files. Facilities, policies, software, and procedures, such as firewalls, intrusion detection, and virus control are in place to provide for physical security, data security, and disaster recovery. Comprehensive disaster recovery facilities are available and tested regularly at the SunGard installation in Philadelphia. ETS routinely sends backup data cartridges and files for critical software, applications, and documentation to an off-site storage facility for safekeeping to permit continued operation in the case of a disaster.

Access to the ETS Computer Processing Center is controlled by employee and visitor identification badges. The Center is secured by doors that can only be unlocked by the badges of personnel who have functional responsibilities within its secure perimeter. Authorized personnel accompany visitors to the Data Center at all times. Extensive smoke detection and alarm systems, as well as a pre-action fire-control system, are installed in the Center.

ETS protects individual student's results on both electronic files and paper reports during:

- Scoring
- Transfer of scores via secure data exchange
- Reporting
- Erasure marks
- Internet postings
- Storage

In addition to protecting the confidentiality of testing materials, ETS' Code of Ethics further prohibits ETS employees from financial misuse, conflicts of interest, and unauthorized appropriation of ETS's property and resources. Specific rules are also given for ETS employees and their immediate families who may take an ETS-contracted test, such as STAR. The ETS Office of Testing Integrity verifies that these standards are followed throughout the organization, including conducting periodic on-site security audits of departments, with follow-up reports containing recommendations for improvement.

References

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Dorans, N.J. and Holland, P.W. "DIF detection and description: Mantel-Haenszel and standardization," *Differential Item Functioning*. Edited by P. W. Holland and H. Wainder. Hillsdale, NJ: Erlbaum, 1993, pp. 35–66.

Appendix 6.A — Demographic Summary Tables

Table 6.A.1: Demographic Summary for English-Language Arts Grade 2

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	466,054	336	61	11%	19%	28%	28%	14%	63%	62%	58%	62%	59%
Male	237,894	332	61	13%	20%	28%	27%	12%	62%	60%	57%	60%	57%
Female	228,051	341	61	10%	18%	28%	30%	15%	64%	65%	59%	64%	61%
Gender unknown	109	316	56	20%	21%	30%	23%	6%	56%	56%	52%	54%	51%
American Indian	3,618	331	58	12%	21%	29%	28%	11%	62%	62%	57%	59%	57%
Asian American	37,025	372	63	4%	9%	21%	36%	30%	75%	73%	67%	77%	69%
Pacific Islander	2,942	341	56	7%	17%	31%	33%	12%	66%	64%	60%	65%	60%
Filipino	12,106	365	56	3%	9%	26%	40%	22%	74%	71%	66%	75%	67%
Hispanic	238,365	316	54	16%	25%	31%	22%	6%	57%	55%	50%	55%	52%
African American	34,887	325	57	14%	22%	30%	25%	9%	61%	57%	54%	58%	55%
White	132,320	363	61	5%	11%	23%	37%	24%	71%	73%	70%	70%	68%
Ethnicity unknown	4,791	350	62	8%	14%	26%	33%	18%	68%	68%	64%	66%	63%
English Only	254,370	350	62	8%	14%	26%	33%	19%	68%	68%	64%	66%	64%
Initially Fluent English Prof.	33,161	362	59	4%	11%	26%	37%	22%	72%	72%	66%	72%	67%
English Learner	171,633	310	52	19%	28%	31%	19%	4%	55%	52%	47%	53%	50%
Re-designated Fluent Eng.	6,180	362	52	3%	8%	27%	43%	19%	72%	73%	66%	74%	68%
English Prof. unknown	710	318	60	19%	25%	25%	23%	9%	57%	56%	53%	53%	52%
Not in NSLP	199,022	363	61	5%	11%	24%	36%	24%	71%	72%	68%	71%	68%
In NSLP	265,880	317	54	16%	25%	31%	22%	6%	57%	55%	50%	55%	52%
NSLP status unknown	1,152	315	61	21%	25%	24%	21%	8%	56%	55%	52%	53%	51%
Special Ed Services	36,245	300	57	29%	28%	22%	15%	6%	51%	48%	46%	47%	45%
No Special Ed Services	428,302	340	61	10%	18%	28%	29%	14%	64%	64%	59%	63%	60%
Special Ed unknown	1,507	318	59	20%	24%	26%	23%	8%	57%	56%	52%	54%	52%

Table 6.A.2: Demographic Summary for English-Language Arts Grade 3

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	473,158	324	61	15%	22%	31%	22%	10%	66%	53%	60%	65%	54%
Male	241,212	318	60	17%	23%	31%	20%	9%	65%	51%	57%	63%	52%
Female	231,863	330	61	13%	21%	32%	23%	12%	68%	55%	63%	68%	56%
Gender unknown	83	320	61	22%	18%	29%	22%	10%	63%	53%	60%	61%	55%
American Indian	3,766	318	56	16%	23%	34%	20%	7%	65%	52%	59%	62%	51%
Asian American	37,946	359	65	6%	12%	27%	30%	24%	77%	64%	68%	76%	66%
Pacific Islander	2,897	324	53	11%	23%	37%	23%	7%	68%	53%	59%	66%	53%
Filipino	12,335	347	54	5%	14%	35%	32%	14%	77%	60%	65%	74%	62%
Hispanic	238,884	303	51	21%	29%	32%	14%	3%	59%	45%	53%	60%	47%
African American	35,709	310	54	19%	26%	33%	17%	5%	63%	48%	55%	60%	49%
White	137,184	353	60	7%	12%	30%	32%	19%	76%	64%	70%	73%	63%
Ethnicity unknown	4,437	338	65	11%	17%	30%	26%	15%	71%	59%	65%	68%	58%
English Only	258,208	339	61	10%	17%	31%	27%	14%	72%	58%	65%	69%	58%
Initially Fluent English Prof.	31,060	350	60	6%	14%	33%	30%	18%	76%	61%	67%	74%	62%
English Learner	166,082	293	48	26%	32%	31%	10%	2%	55%	42%	49%	57%	44%
Re-designated Fluent Eng.	17,066	359	49	2%	8%	36%	38%	16%	80%	64%	70%	78%	67%
English Prof. unknown	742	303	60	27%	25%	26%	16%	6%	59%	46%	53%	57%	47%
Not in NSLP	202,494	352	61	7%	13%	30%	31%	19%	76%	63%	69%	73%	63%
In NSLP	269,529	303	52	21%	28%	32%	14%	3%	59%	46%	53%	60%	47%
NSLP status unknown	1,135	303	59	26%	25%	28%	16%	5%	59%	47%	53%	57%	47%
Special Ed Services	42,873	284	58	41%	25%	20%	10%	4%	50%	41%	46%	50%	41%
No Special Ed Services	428,824	328	60	12%	22%	32%	23%	11%	68%	54%	61%	67%	55%
Special Ed unknown	1,461	304	59	26%	24%	29%	16%	5%	59%	47%	53%	58%	47%

Table 6.A.3: Demographic Summary for English-Language Arts Grade 4

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	479,413	346	54	8%	14%	31%	27%	20%	65%	60%	57%	60%	51%
Male	244,292	341	54	9%	16%	31%	26%	18%	64%	58%	56%	58%	49%
Female	234,985	351	54	6%	12%	30%	29%	23%	67%	62%	58%	62%	53%
Gender unknown	136	321	48	14%	21%	38%	19%	8%	57%	49%	47%	51%	43%
American Indian	3,923	341	50	8%	15%	34%	28%	16%	65%	58%	56%	58%	48%
Asian American	38,451	377	56	3%	6%	20%	29%	41%	75%	72%	67%	72%	62%
Pacific Islander	3,038	346	48	5%	12%	34%	32%	17%	66%	60%	57%	61%	50%
Filipino	12,493	368	48	2%	6%	25%	36%	31%	74%	69%	64%	69%	59%
Hispanic	237,916	327	47	11%	19%	37%	23%	9%	58%	52%	51%	53%	44%
African American	37,320	331	49	11%	18%	35%	25%	11%	61%	53%	52%	55%	44%
White	142,028	371	52	3%	7%	22%	33%	35%	76%	71%	65%	68%	60%
Ethnicity unknown	4,244	358	55	6%	10%	26%	30%	27%	71%	65%	62%	63%	55%
English Only	263,715	359	54	5%	10%	27%	31%	27%	71%	65%	61%	64%	55%
Initially Fluent English Prof.	38,343	367	51	3%	7%	27%	33%	31%	74%	68%	64%	67%	58%
English Learner	149,315	313	41	15%	25%	40%	17%	3%	51%	46%	46%	49%	39%
Re-designated Fluent Eng.	27,403	377	41	1%	2%	21%	43%	33%	77%	73%	67%	72%	62%
English Prof. unknown	637	331	55	15%	16%	30%	24%	14%	60%	53%	53%	54%	46%
Not in NSLP	207,291	371	52	3%	7%	22%	32%	35%	75%	70%	65%	68%	60%
In NSLP	271,158	327	47	11%	20%	37%	23%	9%	58%	52%	51%	54%	44%
NSLP status unknown	964	329	55	16%	19%	26%	25%	13%	59%	53%	52%	53%	45%
Special Ed Services	44,723	308	52	27%	26%	26%	13%	8%	49%	44%	44%	45%	38%
No Special Ed Services	433,378	350	53	6%	13%	31%	29%	22%	67%	62%	59%	62%	52%
Special Ed unknown	1,312	329	52	14%	18%	33%	23%	12%	59%	53%	52%	54%	45%

Table 6.A.4: Demographic Summary for English-Language Arts Grade 5

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	485,359	340	56	11%	14%	32%	26%	17%	62%	53%	67%	68%	54%
Male	247,658	336	57	14%	15%	32%	24%	15%	62%	52%	65%	65%	51%
Female	237,574	346	55	9%	12%	33%	28%	18%	62%	55%	69%	71%	57%
Gender unknown	127	318	54	20%	24%	30%	17%	9%	52%	47%	56%	59%	46%
American Indian	3,963	334	52	12%	15%	33%	27%	12%	61%	51%	65%	64%	51%
Asian American	39,283	373	59	5%	6%	23%	31%	35%	72%	65%	77%	78%	66%
Pacific Islander	3,099	338	50	9%	14%	37%	28%	13%	61%	52%	66%	68%	53%
Filipino	12,290	362	49	3%	7%	29%	36%	24%	70%	61%	75%	76%	62%
Hispanic	238,055	321	48	16%	18%	38%	21%	7%	54%	46%	60%	62%	47%
African American	39,346	323	50	17%	18%	36%	22%	8%	57%	47%	60%	63%	48%
White	145,689	366	55	5%	7%	25%	33%	30%	73%	63%	76%	74%	63%
Ethnicity unknown	3,634	350	58	10%	11%	28%	29%	22%	67%	57%	70%	69%	56%
English Only	266,950	353	56	8%	10%	29%	30%	23%	68%	58%	71%	71%	58%
Initially Fluent English Prof.	38,096	361	54	5%	8%	30%	32%	25%	69%	60%	75%	74%	61%
English Learner	134,625	303	39	23%	25%	40%	11%	2%	46%	40%	52%	56%	40%
Re-designated Fluent Eng.	44,947	363	42	1%	4%	32%	43%	20%	69%	61%	77%	78%	64%
English Prof. unknown	741	319	55	23%	21%	28%	19%	9%	54%	47%	59%	59%	45%
Not in NSLP	211,568	366	56	5%	7%	25%	33%	30%	72%	62%	76%	75%	63%
In NSLP	272,718	321	48	16%	18%	38%	21%	7%	54%	46%	60%	62%	47%
NSLP status unknown	1,073	317	55	24%	19%	30%	19%	9%	53%	47%	58%	58%	45%
Special Ed Services	46,245	296	50	39%	22%	24%	10%	5%	45%	39%	48%	49%	38%
No Special Ed Services	437,953	345	54	9%	13%	33%	28%	18%	64%	55%	69%	70%	56%
Special Ed unknown	1,161	320	54	22%	19%	31%	20%	9%	54%	46%	59%	60%	47%

Table 6.A.5: Demographic Summary for English-Language Arts Grade 6

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	483,008	335	54	10%	17%	34%	24%	14%	61%	54%	52%	73%	54%
Male	246,609	330	54	13%	19%	33%	22%	13%	59%	52%	51%	70%	53%
Female	236,290	341	53	8%	16%	36%	25%	16%	63%	57%	53%	76%	55%
Gender unknown	109	321	53	16%	18%	40%	17%	9%	55%	49%	45%	67%	50%
American Indian	3,853	329	49	10%	19%	39%	22%	10%	60%	52%	51%	69%	52%
Asian American	39,812	364	55	4%	9%	27%	30%	30%	71%	64%	62%	82%	65%
Pacific Islander	3,062	331	48	9%	18%	39%	24%	10%	60%	53%	51%	73%	51%
Filipino	12,438	355	47	3%	9%	35%	34%	19%	70%	62%	59%	82%	61%
Hispanic	232,335	316	46	15%	24%	39%	17%	5%	53%	48%	45%	67%	46%
African American	39,256	317	48	16%	23%	36%	18%	6%	54%	48%	46%	65%	47%
White	148,497	360	52	4%	9%	29%	32%	26%	71%	63%	62%	80%	65%
Ethnicity unknown	3,755	344	55	10%	13%	31%	27%	18%	65%	57%	56%	74%	58%
English Only	269,093	347	54	7%	13%	32%	28%	20%	66%	58%	57%	76%	59%
Initially Fluent English Prof.	38,226	353	51	4%	11%	34%	30%	21%	68%	61%	58%	80%	61%
English Learner	114,357	294	36	24%	34%	34%	6%	1%	44%	39%	37%	58%	37%
Re-designated Fluent Eng.	60,606	349	41	2%	8%	44%	33%	13%	67%	60%	56%	82%	59%
English Prof. unknown	726	319	50	16%	23%	34%	20%	7%	55%	49%	46%	65%	48%
Not in NSLP	223,286	358	53	5%	10%	30%	31%	25%	70%	62%	60%	80%	63%
In NSLP	258,718	316	46	15%	24%	38%	17%	5%	53%	48%	45%	66%	46%
NSLP status unknown	1,004	316	52	19%	24%	31%	17%	9%	53%	48%	46%	63%	46%
Special Ed Services	43,941	289	45	37%	30%	23%	7%	3%	42%	38%	36%	51%	37%
No Special Ed Services	437,883	340	52	8%	16%	35%	25%	15%	63%	56%	54%	75%	56%
Special Ed unknown	1,184	318	51	17%	24%	33%	18%	9%	54%	48%	46%	65%	48%

Table 6.A.6: Demographic Summary for English-Language Arts Grade 7

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	481,346	337	55	10%	17%	30%	30%	13%	66%	65%	49%	59%	56%
Male	245,645	330	56	12%	19%	30%	28%	11%	64%	63%	47%	56%	53%
Female	235,570	345	54	7%	15%	30%	33%	16%	68%	68%	51%	62%	59%
Gender unknown	131	306	58	28%	26%	23%	16%	7%	55%	52%	41%	47%	44%
American Indian	4,041	330	52	10%	19%	33%	28%	9%	64%	64%	48%	55%	53%
Asian American	40,428	368	55	4%	8%	21%	37%	29%	75%	75%	56%	72%	67%
Pacific Islander	3,076	335	49	7%	18%	35%	31%	9%	64%	64%	47%	60%	55%
Filipino	12,506	359	47	2%	8%	28%	43%	18%	73%	73%	54%	70%	64%
Hispanic	224,228	318	49	14%	23%	35%	23%	5%	59%	59%	42%	52%	49%
African American	38,722	319	51	14%	23%	33%	23%	6%	58%	58%	44%	52%	49%
White	154,280	360	53	4%	10%	25%	39%	23%	75%	73%	57%	67%	63%
Ethnicity unknown	4,065	338	58	12%	16%	27%	31%	14%	66%	65%	51%	58%	56%
English Only	273,226	348	55	7%	14%	28%	34%	18%	70%	69%	53%	63%	59%
Initially Fluent English Prof.	38,555	356	52	4%	11%	28%	38%	20%	73%	72%	54%	66%	62%
English Learner	102,572	292	40	24%	34%	33%	8%	1%	49%	48%	34%	43%	41%
Re-designated Fluent Eng.	66,224	352	42	2%	9%	36%	42%	12%	72%	72%	52%	65%	61%
English Prof. unknown	769	314	54	20%	22%	30%	22%	6%	58%	57%	43%	51%	47%
Not in NSLP	244,961	356	54	5%	11%	26%	37%	21%	73%	72%	55%	66%	62%
In NSLP	235,308	318	49	14%	24%	34%	23%	5%	59%	58%	42%	52%	49%
NSLP status unknown	1,077	311	57	24%	23%	26%	20%	7%	56%	56%	42%	49%	46%
Special Ed Services	41,446	285	45	35%	33%	22%	8%	2%	46%	45%	34%	39%	38%
No Special Ed Services	438,580	342	54	7%	16%	31%	32%	14%	68%	67%	50%	61%	57%
Special Ed unknown	1,320	313	55	20%	25%	30%	19%	6%	57%	57%	42%	49%	47%

Table 6.A.7: Demographic Summary for English-Language Arts Grade 8

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	489,007	334	55	10%	19%	33%	24%	15%	59%	51%	56%	61%	62%
Male	248,997	328	55	13%	21%	32%	22%	13%	57%	49%	54%	58%	58%
Female	239,867	341	53	7%	16%	34%	26%	17%	60%	52%	59%	65%	65%
Gender unknown	143	308	50	20%	28%	32%	12%	8%	53%	41%	48%	52%	50%
American Indian	4,066	330	51	11%	20%	34%	24%	11%	58%	49%	56%	58%	60%
Asian American	40,705	361	57	5%	10%	26%	29%	29%	65%	59%	65%	72%	71%
Pacific Islander	3,106	328	49	9%	20%	38%	23%	9%	56%	47%	55%	60%	60%
Filipino	12,954	350	47	3%	11%	36%	33%	18%	62%	56%	62%	70%	67%
Hispanic	222,833	315	47	14%	25%	37%	18%	5%	53%	44%	49%	55%	55%
African American	39,929	314	48	15%	25%	36%	18%	6%	52%	43%	50%	54%	55%
White	161,297	358	54	5%	10%	27%	32%	26%	66%	59%	65%	68%	71%
Ethnicity unknown	4,117	334	59	12%	19%	29%	23%	16%	59%	51%	57%	59%	60%
English Only	282,181	345	55	7%	14%	31%	28%	20%	62%	54%	61%	64%	66%
Initially Fluent English Prof.	39,290	351	52	5%	12%	33%	30%	20%	64%	56%	62%	68%	68%
English Learner	97,429	290	35	24%	38%	32%	5%	1%	45%	36%	39%	45%	44%
Re-designated Fluent Eng.	69,200	344	42	2%	11%	44%	31%	11%	62%	53%	59%	68%	66%
English Prof. unknown	907	312	52	21%	24%	31%	17%	6%	52%	44%	49%	52%	52%
Not in NSLP	261,546	352	55	6%	12%	29%	30%	23%	64%	56%	63%	67%	68%
In NSLP	226,272	314	47	14%	26%	37%	17%	5%	53%	44%	49%	55%	54%
NSLP status unknown	1,189	312	54	22%	24%	30%	16%	8%	52%	44%	49%	52%	52%
Special Ed Services	43,735	284	42	37%	35%	21%	6%	2%	43%	35%	39%	41%	41%
No Special Ed Services	443,933	339	53	7%	17%	34%	26%	16%	60%	52%	58%	63%	64%
Special Ed unknown	1,339	312	52	21%	24%	32%	18%	6%	52%	43%	49%	53%	53%

Table 6.A.8: Demographic Summary for English-Language Arts Grade 9

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	512,712	340	60	10%	19%	28%	23%	20%	62%	57%	54%	61%	56%
Male	263,089	332	61	13%	21%	28%	21%	17%	60%	55%	52%	58%	53%
Female	249,458	348	59	7%	16%	29%	25%	23%	64%	59%	57%	65%	60%
Gender unknown	165	309	52	22%	30%	25%	16%	7%	52%	47%	46%	50%	43%
American Indian	4,689	334	57	11%	21%	30%	23%	16%	62%	56%	53%	58%	54%
Asian American	42,620	372	63	5%	10%	21%	25%	39%	72%	68%	65%	71%	67%
Pacific Islander	3,417	333	54	10%	20%	33%	24%	14%	61%	55%	52%	60%	54%
Filipino	14,011	363	53	3%	10%	27%	32%	28%	71%	66%	61%	69%	65%
Hispanic	228,183	318	51	15%	26%	33%	19%	8%	53%	50%	47%	55%	49%
African American	42,908	318	53	16%	25%	32%	18%	9%	57%	49%	47%	54%	49%
White	170,092	365	60	5%	11%	23%	29%	33%	73%	66%	63%	68%	64%
Ethnicity unknown	6,792	336	63	13%	19%	27%	21%	19%	62%	56%	54%	59%	55%
English Only	303,522	351	61	8%	15%	26%	26%	25%	68%	61%	58%	64%	60%
Initially Fluent English Prof.	43,630	357	59	5%	13%	27%	28%	27%	68%	63%	60%	67%	63%
English Learner	96,417	291	38	25%	38%	30%	6%	1%	41%	40%	37%	47%	40%
Re-designated Fluent Eng.	68,159	348	49	4%	12%	36%	31%	17%	64%	61%	57%	66%	61%
English Prof. unknown	984	315	57	20%	26%	27%	16%	11%	54%	48%	46%	52%	47%
Not in NSLP	300,461	355	61	7%	14%	25%	26%	28%	68%	63%	60%	65%	61%
In NSLP	210,696	318	52	15%	26%	32%	18%	8%	53%	50%	46%	55%	49%
NSLP status unknown	1,555	311	57	23%	26%	26%	15%	10%	52%	48%	45%	51%	46%
Special Ed Services	44,163	284	43	35%	37%	20%	6%	2%	41%	38%	36%	41%	36%
No Special Ed Services	467,069	345	59	8%	17%	29%	25%	21%	64%	59%	56%	63%	58%
Special Ed unknown	1,480	310	57	23%	27%	26%	14%	9%	51%	47%	44%	51%	46%

Table 6.A.9: Demographic Summary for English-Language Arts Grade 10

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	458,455	328	58	15%	19%	30%	22%	14%	70%	60%	54%	62%	61%
Male	233,501	320	59	20%	20%	28%	20%	12%	68%	57%	51%	58%	58%
Female	224,798	337	56	10%	17%	32%	25%	16%	72%	63%	57%	66%	64%
Gender unknown	156	295	56	35%	26%	19%	13%	6%	56%	48%	43%	48%	46%
American Indian	4,095	321	56	17%	21%	30%	21%	11%	70%	57%	52%	58%	58%
Asian American	42,381	356	60	7%	12%	25%	29%	27%	77%	70%	63%	73%	69%
Pacific Islander	3,148	318	52	16%	22%	35%	20%	8%	68%	56%	49%	60%	57%
Filipino	13,500	347	50	6%	12%	34%	31%	17%	78%	67%	60%	71%	68%
Hispanic	190,341	307	49	21%	26%	33%	15%	5%	62%	52%	46%	54%	53%
African American	37,857	308	52	23%	24%	31%	16%	6%	64%	51%	46%	55%	53%
White	161,613	350	58	9%	12%	26%	30%	23%	79%	68%	62%	68%	69%
Ethnicity unknown	5,520	320	61	21%	20%	27%	19%	13%	68%	57%	52%	57%	57%
English Only	281,378	338	59	13%	15%	28%	26%	18%	75%	63%	57%	64%	64%
Initially Fluent English Prof.	40,056	344	56	9%	14%	32%	27%	18%	76%	65%	59%	68%	67%
English Learner	75,496	280	35	35%	38%	23%	3%	0%	49%	43%	37%	45%	41%
Re-designated Fluent Eng.	60,643	334	46	7%	15%	43%	26%	9%	73%	62%	56%	66%	64%
English Prof. unknown	882	299	52	28%	27%	26%	14%	5%	59%	49%	44%	50%	49%
Not in NSLP	286,338	341	59	11%	15%	28%	27%	19%	75%	65%	58%	66%	65%
In NSLP	170,736	307	50	21%	26%	32%	15%	5%	62%	52%	46%	55%	53%
NSLP status unknown	1,381	299	55	31%	25%	24%	14%	6%	59%	49%	45%	50%	49%
Special Ed Services	39,427	273	41	49%	30%	16%	4%	2%	48%	39%	35%	40%	39%
No Special Ed Services	417,651	334	57	12%	18%	31%	24%	15%	72%	62%	56%	64%	63%
Special Ed unknown	1,377	297	53	31%	28%	23%	13%	6%	58%	48%	44%	50%	48%

Table 6.A.10: Demographic Summary for English-Language Arts Grade 11

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	407,408	323	64	20%	17%	27%	23%	13%	59%	57%	55%	60%	58%
Male	205,717	315	65	25%	18%	25%	21%	12%	58%	55%	53%	56%	55%
Female	201,584	331	61	15%	17%	29%	25%	15%	60%	59%	58%	64%	61%
Gender unknown	107	280	54	46%	21%	18%	12%	3%	44%	46%	43%	43%	41%
American Indian	3,500	316	61	23%	18%	28%	22%	10%	57%	56%	54%	57%	55%
Asian American	41,510	350	64	10%	12%	24%	28%	25%	68%	64%	63%	70%	68%
Pacific Islander	2,798	308	58	25%	21%	29%	19%	7%	55%	53%	50%	56%	53%
Filipino	12,688	339	54	9%	14%	33%	30%	14%	66%	61%	60%	67%	65%
Hispanic	161,474	301	55	27%	23%	29%	16%	5%	51%	51%	48%	52%	51%
African American	31,653	299	57	30%	22%	27%	16%	5%	51%	50%	48%	52%	50%
White	149,145	344	64	13%	12%	25%	29%	21%	66%	63%	62%	67%	65%
Ethnicity unknown	4,640	315	68	27%	18%	21%	21%	13%	57%	55%	53%	56%	54%
English Only	252,721	332	65	18%	15%	26%	25%	17%	62%	60%	58%	63%	61%
Initially Fluent English Prof.	38,001	338	62	13%	14%	28%	27%	17%	64%	62%	60%	66%	64%
English Learner	59,461	271	41	45%	31%	20%	4%	0%	40%	41%	39%	41%	40%
Re-designated Fluent Eng.	56,512	330	51	10%	16%	38%	26%	9%	60%	60%	57%	64%	63%
English Prof. unknown	713	292	62	38%	20%	22%	14%	6%	48%	48%	46%	48%	47%
Not in NSLP	266,589	334	65	16%	14%	26%	26%	18%	63%	60%	59%	64%	62%
In NSLP	139,623	302	56	27%	23%	29%	16%	5%	51%	51%	49%	53%	51%
NSLP status unknown	1,196	294	60	36%	22%	22%	14%	6%	49%	48%	47%	49%	47%
Special Ed Services	33,491	262	46	59%	22%	13%	4%	1%	39%	38%	36%	37%	36%
No Special Ed Services	372,849	329	62	16%	17%	28%	24%	14%	61%	59%	57%	62%	60%
Special Ed unknown	1,068	291	59	38%	22%	21%	14%	5%	48%	48%	46%	48%	46%

Table 6.A.11: Demographic Summary for History-Social Science Grade 8

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	World History and Geography: Ancient Civilizations	Late Antiquity and the Middle Ages	Renaissance/ Reformation	U.S. Constitution and the Early Republic	Civil War and Its Aftermath
All valid scores	487,088	324	55	18%	21%	30%	20%	11%	47%	48%	43%	50%	49%
Male	247,877	325	58	20%	20%	28%	20%	13%	48%	49%	43%	50%	48%
Female	239,069	323	52	16%	22%	32%	20%	9%	46%	47%	42%	50%	50%
Gender unknown	142	297	43	33%	26%	25%	14%	1%	39%	39%	36%	39%	42%
American Indian	4,034	319	51	18%	23%	31%	20%	8%	46%	47%	41%	48%	47%
Asian American	40,669	357	62	8%	12%	26%	28%	26%	56%	60%	52%	61%	59%
Pacific Islander	3,096	319	49	16%	23%	34%	19%	7%	46%	47%	41%	48%	47%
Filipino	12,925	341	49	7%	15%	37%	29%	13%	52%	54%	48%	56%	55%
Hispanic	221,911	305	45	25%	28%	30%	13%	4%	41%	41%	37%	43%	43%
African American	39,664	304	46	27%	27%	30%	13%	4%	41%	41%	37%	42%	44%
White	160,742	346	57	9%	14%	30%	28%	19%	54%	55%	48%	58%	56%
Ethnicity unknown	4,047	323	58	21%	21%	28%	19%	12%	47%	48%	43%	49%	47%
English Only	280,859	333	57	14%	18%	31%	23%	14%	50%	51%	45%	53%	52%
Initially Fluent English Prof.	39,188	340	57	10%	16%	32%	25%	17%	52%	54%	48%	56%	54%
English Learner	97,066	285	34	39%	35%	22%	4%	1%	34%	34%	32%	36%	36%
Re-designated Fluent Eng.	69,087	331	48	9%	19%	39%	23%	10%	49%	51%	45%	53%	52%
English Prof. unknown	888	304	51	27%	30%	25%	12%	6%	42%	41%	38%	42%	41%
Not in NSLP	260,672	341	58	11%	16%	30%	26%	17%	52%	54%	47%	56%	55%
In NSLP	225,238	305	45	25%	28%	30%	13%	4%	41%	41%	37%	43%	43%
NSLP status unknown	1,178	304	51	29%	28%	26%	11%	6%	41%	41%	38%	42%	42%
Special Ed Services	43,496	286	42	43%	31%	18%	6%	3%	36%	35%	32%	36%	36%
No Special Ed Services	442,270	328	55	15%	20%	31%	21%	12%	48%	49%	44%	51%	50%
Special Ed unknown	1,322	303	50	29%	29%	25%	12%	5%	41%	41%	38%	41%	41%

Table 6.A.12: Demographic Summary for History-Social Science Grade 10

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Development of Modern Political Thought	Industrial Expansion and Imperialism	Causes and Effects of the First World War	Causes and Effects of the Second World War	International Developments in the Post-World War II Era
All valid scores	451,731	321	61	25%	15%	29%	19%	12%	53%	56%	51%	47%	45%
Male	229,868	323	66	27%	14%	26%	20%	14%	53%	56%	52%	48%	46%
Female	221,718	318	56	23%	17%	33%	19%	9%	52%	55%	49%	47%	45%
Gender unknown	145	287	52	50%	13%	22%	12%	3%	41%	44%	41%	37%	36%
American Indian	4,008	312	58	29%	16%	29%	18%	8%	50%	53%	48%	45%	42%
Asian American	42,057	352	66	12%	9%	27%	28%	24%	62%	67%	60%	57%	55%
Pacific Islander	3,097	311	54	26%	17%	34%	16%	6%	49%	53%	48%	44%	42%
Filipino	13,352	336	54	12%	12%	37%	27%	13%	57%	62%	55%	52%	52%
Hispanic	187,235	301	51	33%	19%	30%	13%	4%	46%	48%	44%	41%	40%
African American	36,841	295	51	38%	19%	27%	11%	4%	44%	47%	43%	39%	38%
White	159,765	341	63	16%	11%	29%	26%	18%	59%	63%	57%	53%	51%
Ethnicity unknown	5,376	313	63	32%	15%	25%	17%	11%	51%	53%	48%	45%	43%
English Only	277,146	328	63	22%	14%	29%	22%	14%	55%	58%	53%	49%	47%
Initially Fluent English Prof.	39,673	337	62	16%	12%	31%	24%	16%	58%	61%	55%	52%	50%
English Learner	73,908	280	41	48%	23%	22%	5%	1%	39%	40%	38%	35%	34%
Re-designated Fluent Eng.	60,171	327	54	16%	15%	37%	22%	10%	55%	58%	53%	50%	48%
English Prof. unknown	833	291	52	44%	18%	24%	9%	4%	43%	45%	41%	38%	37%
Not in NSLP	282,533	332	63	19%	13%	29%	23%	16%	56%	60%	54%	51%	49%
In NSLP	167,883	301	52	34%	19%	29%	13%	5%	46%	48%	45%	42%	40%
NSLP status unknown	1,315	290	51	45%	18%	23%	10%	4%	43%	45%	41%	38%	36%
Special Ed Services	38,571	275	46	58%	19%	16%	5%	2%	37%	38%	37%	34%	31%
No Special Ed Services	411,862	325	61	22%	15%	30%	21%	12%	54%	57%	52%	49%	47%
Special Ed unknown	1,298	290	52	45%	18%	23%	9%	5%	42%	45%	41%	38%	37%

Table 6.A.13: Demographic Summary for History-Social Science Grade 11

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Foundations of American Political and Social Thought	Industrialization and the U.S. Role as a World Power	United States Between the World Wars	World War II and Foreign Affairs	Post-World War II Domestic Issues
All valid scores	400,563	329	64	20%	18%	25%	23%	14%	50%	50%	51%	51%	49%
Male	202,091	329	67	23%	17%	22%	22%	15%	49%	49%	51%	52%	48%
Female	198,369	329	60	18%	19%	28%	23%	13%	50%	50%	52%	50%	50%
Gender unknown	103	289	40	42%	26%	19%	13%	0%	38%	38%	39%	37%	35%
American Indian	3,433	320	58	23%	20%	27%	20%	10%	47%	46%	49%	49%	45%
Asian American	41,126	361	70	11%	11%	22%	28%	28%	58%	59%	60%	63%	59%
Pacific Islander	2,735	315	55	24%	22%	27%	19%	7%	45%	46%	47%	46%	44%
Filipino	12,549	343	58	11%	14%	29%	30%	16%	53%	54%	55%	57%	54%
Hispanic	158,522	309	53	27%	23%	27%	17%	6%	43%	44%	46%	44%	43%
African American	30,757	305	53	30%	24%	25%	16%	6%	42%	43%	45%	41%	42%
White	146,935	346	66	14%	14%	24%	28%	20%	55%	54%	57%	58%	54%
Ethnicity unknown	4,506	320	64	26%	20%	22%	20%	12%	47%	47%	48%	48%	46%
English Only	248,228	336	65	18%	16%	24%	25%	16%	52%	51%	53%	54%	51%
Initially Fluent English Prof.	37,537	345	66	14%	15%	26%	26%	20%	54%	54%	56%	57%	54%
English Learner	58,163	285	40	41%	30%	21%	6%	1%	35%	37%	38%	34%	34%
Re-designated Fluent Eng.	55,943	336	57	12%	17%	32%	26%	13%	51%	52%	54%	54%	52%
English Prof. unknown	692	300	55	35%	26%	21%	13%	5%	41%	42%	43%	41%	39%
Not in NSLP	262,252	339	66	17%	16%	24%	26%	18%	53%	52%	54%	55%	52%
In NSLP	137,155	310	55	27%	23%	26%	17%	7%	43%	44%	46%	44%	43%
NSLP status unknown	1,156	299	55	35%	26%	21%	13%	5%	41%	41%	42%	40%	39%
Special Ed Services	32,665	280	45	50%	26%	15%	6%	2%	34%	36%	35%	34%	33%
No Special Ed Services	366,860	333	63	18%	17%	26%	24%	15%	51%	51%	53%	53%	50%
Special Ed unknown	1,038	300	54	33%	26%	23%	12%	5%	41%	41%	42%	40%	39%

Table 6.A.14: Demographic Summary for Mathematics Grade 2

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Place Value, Addition, and Subtraction	Multiplication, Division, and Fractions	Algebra and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	466,147	366	83	5%	17%	22%	28%	28%	71%	75%	67%	76%	70%
Male	238,088	368	85	5%	16%	21%	28%	30%	72%	75%	68%	76%	70%
Female	227,952	364	81	4%	18%	23%	28%	27%	71%	75%	66%	75%	69%
Gender unknown	107	339	76	6%	25%	30%	23%	16%	65%	69%	59%	70%	62%
American Indian	3,623	359	77	4%	18%	24%	30%	24%	69%	74%	65%	76%	68%
Asian American	37,056	418	86	2%	7%	13%	25%	54%	83%	84%	82%	84%	81%
Pacific Islander	2,937	364	78	4%	16%	25%	30%	26%	71%	75%	68%	75%	69%
Filipino	12,115	395	78	1%	9%	18%	32%	40%	79%	81%	77%	81%	77%
Hispanic	238,321	343	75	6%	23%	26%	27%	17%	66%	70%	61%	71%	65%
African American	34,847	338	78	8%	24%	25%	26%	17%	64%	69%	59%	69%	62%
White	132,456	398	80	2%	8%	17%	31%	42%	78%	82%	76%	83%	76%
Ethnicity unknown	4,792	378	85	4%	14%	20%	29%	33%	74%	77%	71%	78%	72%
English Only	254,430	379	83	3%	13%	20%	30%	34%	74%	78%	71%	79%	72%
Initially Fluent English Prof.	33,153	399	81	1%	9%	18%	30%	42%	79%	82%	77%	82%	77%
English Learner	171,682	339	76	7%	25%	26%	26%	17%	65%	69%	60%	70%	64%
Re-designated Fluent Eng.	6,177	401	75	1%	7%	17%	33%	43%	80%	82%	78%	83%	78%
English Prof. unknown	705	340	88	10%	25%	21%	24%	19%	63%	68%	60%	70%	63%
Not in NSLP	199,096	397	83	2%	9%	17%	30%	42%	78%	81%	76%	82%	76%
In NSLP	265,894	343	76	6%	23%	26%	27%	18%	66%	70%	61%	71%	65%
NSLP status unknown	1,157	335	84	11%	23%	25%	23%	18%	63%	67%	59%	69%	62%
Special Ed Services	36,620	317	88	19%	27%	20%	19%	15%	58%	62%	53%	64%	57%
No Special Ed Services	428,023	370	82	3%	16%	22%	29%	29%	72%	76%	68%	77%	71%
Special Ed unknown	1,504	339	81	9%	24%	26%	23%	19%	64%	69%	60%	70%	64%

Table 6.A.15: Demographic Summary for Mathematics Grade 3

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Place Value, Fractions and Decimals	Addition, Subtraction, Multiplication, and Division	Algebra and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	472,847	362	78	4%	19%	22%	31%	24%	73%	67%	70%	72%	79%
Male	241,079	364	81	4%	19%	21%	30%	26%	73%	66%	71%	72%	79%
Female	231,686	360	75	3%	20%	24%	31%	23%	73%	67%	69%	72%	79%
Gender unknown	82	346	83	7%	27%	17%	27%	22%	66%	64%	65%	70%	73%
American Indian	3,764	348	72	4%	23%	24%	32%	17%	70%	62%	67%	70%	78%
Asian American	37,941	419	83	1%	7%	12%	28%	52%	84%	81%	82%	82%	87%
Pacific Islander	2,898	360	73	3%	19%	24%	33%	21%	74%	67%	69%	72%	78%
Filipino	12,326	394	73	1%	8%	17%	36%	38%	81%	76%	78%	79%	85%
Hispanic	238,732	341	69	5%	25%	26%	29%	14%	68%	62%	64%	68%	74%
African American	35,660	332	71	7%	29%	25%	27%	13%	66%	59%	61%	66%	73%
White	137,095	389	77	2%	11%	17%	34%	36%	79%	73%	78%	78%	86%
Ethnicity unknown	4,431	370	81	4%	17%	19%	32%	28%	75%	68%	73%	73%	81%
English Only	257,949	372	79	3%	16%	20%	32%	29%	75%	69%	73%	74%	82%
Initially Fluent English Prof.	31,040	396	80	1%	10%	17%	33%	39%	80%	76%	78%	79%	85%
English Learner	166,068	335	69	5%	28%	27%	27%	13%	66%	61%	62%	67%	72%
Re-designated Fluent Eng.	17,055	411	70	0%	4%	13%	36%	46%	84%	81%	82%	82%	88%
English Prof. unknown	735	329	76	10%	30%	22%	24%	13%	64%	57%	62%	65%	70%
Not in NSLP	202,393	391	79	2%	11%	17%	33%	37%	79%	74%	78%	78%	86%
In NSLP	269,319	341	71	5%	26%	26%	29%	15%	68%	62%	64%	68%	74%
NSLP status unknown	1,135	331	73	9%	27%	24%	27%	13%	65%	58%	63%	65%	70%
Special Ed Services	43,094	312	79	16%	34%	20%	18%	12%	59%	52%	56%	60%	66%
No Special Ed Services	428,298	367	76	2%	18%	22%	32%	26%	74%	68%	71%	73%	80%
Special Ed unknown	1,455	335	76	9%	25%	25%	25%	15%	66%	59%	64%	65%	72%

Table 6.A.16: Demographic Summary for Mathematics Grade 4

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Decimals, Fractions, and Negative Numbers	Operations and Factoring	Algebra and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	480,644	354	70	5%	19%	25%	24%	26%	74%	69%	73%	63%	71%
Male	245,250	354	72	6%	20%	24%	23%	27%	75%	68%	72%	63%	70%
Female	235,254	354	68	4%	19%	27%	25%	26%	73%	70%	73%	64%	72%
Gender unknown	140	318	66	12%	31%	24%	19%	14%	63%	59%	61%	52%	61%
American Indian	3,938	342	67	6%	22%	28%	24%	19%	72%	65%	68%	60%	69%
Asian American	38,524	404	73	1%	6%	14%	24%	54%	84%	84%	86%	76%	81%
Pacific Islander	3,043	354	63	3%	18%	28%	27%	24%	74%	70%	74%	64%	72%
Filipino	12,497	382	64	1%	8%	21%	30%	40%	81%	79%	82%	71%	79%
Hispanic	238,593	335	63	6%	26%	30%	22%	16%	69%	64%	68%	58%	67%
African American	37,415	325	64	10%	29%	28%	20%	14%	65%	60%	64%	55%	63%
White	142,381	377	70	3%	11%	21%	27%	38%	81%	76%	79%	70%	78%
Ethnicity unknown	4,253	360	70	5%	16%	25%	26%	29%	77%	71%	74%	65%	74%
English Only	264,306	362	71	4%	16%	24%	25%	31%	77%	72%	75%	66%	74%
Initially Fluent English Prof.	38,356	380	71	2%	11%	22%	26%	39%	80%	77%	80%	71%	78%
English Learner	149,939	325	60	7%	30%	31%	20%	12%	66%	61%	64%	55%	63%
Re-designated Fluent Eng.	27,399	395	61	0%	5%	18%	30%	47%	84%	83%	85%	75%	82%
English Prof. unknown	644	332	69	9%	26%	26%	19%	19%	68%	63%	65%	56%	65%
Not in NSLP	207,722	380	71	2%	11%	21%	27%	39%	81%	77%	80%	70%	78%
In NSLP	271,954	335	64	7%	26%	29%	22%	17%	69%	63%	67%	58%	66%
NSLP status unknown	968	326	65	11%	28%	27%	20%	15%	66%	61%	63%	55%	64%
Special Ed Services	46,111	305	68	19%	36%	21%	13%	11%	59%	52%	55%	49%	57%
No Special Ed Services	433,220	359	69	3%	18%	26%	25%	28%	76%	71%	74%	65%	73%
Special Ed unknown	1,313	328	66	9%	29%	27%	20%	16%	68%	61%	64%	56%	64%

Table 6.A.17: Demographic Summary for Mathematics Grade 5

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Estimation, Percents, and Factoring	Operations with Fractions and Decimals	Algebra and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	485,291	350	89	12%	20%	24%	26%	19%	57%	61%	63%	59%	77%
Male	247,683	348	92	14%	21%	22%	24%	19%	58%	59%	62%	58%	75%
Female	237,481	352	85	9%	20%	25%	27%	18%	57%	62%	63%	60%	79%
Gender unknown	127	310	80	21%	30%	22%	19%	8%	48%	49%	52%	50%	63%
American Indian	3,960	329	79	15%	24%	26%	24%	12%	52%	55%	58%	55%	73%
Asian American	39,329	420	98	3%	8%	15%	28%	46%	73%	78%	78%	73%	87%
Pacific Islander	3,098	346	82	11%	20%	25%	29%	16%	57%	60%	63%	58%	76%
Filipino	12,293	385	84	4%	11%	21%	33%	30%	66%	71%	72%	68%	85%
Hispanic	238,030	325	75	15%	26%	26%	23%	10%	51%	55%	57%	53%	73%
African American	39,321	314	76	21%	27%	24%	20%	8%	49%	51%	54%	51%	68%
White	145,627	378	90	7%	13%	21%	31%	28%	65%	68%	70%	66%	82%
Ethnicity unknown	3,633	350	91	12%	20%	23%	25%	20%	58%	61%	62%	59%	76%
English Only	266,755	359	90	10%	18%	22%	27%	22%	60%	63%	65%	61%	78%
Initially Fluent English Prof.	38,073	383	94	5%	14%	22%	29%	30%	65%	69%	71%	67%	83%
English Learner	134,798	307	67	19%	32%	27%	17%	6%	47%	50%	52%	48%	69%
Re-designated Fluent Eng.	44,922	393	81	2%	9%	22%	37%	31%	68%	73%	74%	70%	88%
English Prof. unknown	743	312	81	23%	28%	23%	16%	10%	48%	50%	52%	50%	67%
Not in NSLP	211,499	382	92	6%	13%	21%	30%	30%	65%	69%	70%	66%	83%
In NSLP	272,715	325	77	16%	26%	26%	22%	10%	51%	54%	57%	53%	73%
NSLP status unknown	1,077	310	80	22%	31%	22%	16%	9%	48%	50%	52%	49%	67%
Special Ed Services	46,371	286	75	38%	29%	16%	11%	6%	42%	42%	46%	42%	58%
No Special Ed Services	437,753	356	87	9%	20%	24%	27%	20%	59%	63%	65%	61%	79%
Special Ed unknown	1,167	315	80	20%	30%	23%	17%	10%	48%	51%	53%	51%	68%

Table 6.A.18: Demographic Summary for Mathematics Grade 6

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Ratios, Proportions, Percentages, and Negative Fractions	Operations and Problem Solving with Fractions	Algebra and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	482,447	340	70	8%	25%	27%	26%	14%	61%	63%	65%	53%	55%
Male	246,310	340	72	9%	24%	26%	26%	15%	62%	64%	64%	52%	54%
Female	236,026	339	67	7%	25%	29%	26%	13%	60%	63%	65%	55%	55%
Gender unknown	111	317	63	11%	35%	28%	19%	7%	55%	55%	57%	48%	47%
American Indian	3,845	327	62	9%	29%	30%	23%	9%	58%	60%	60%	49%	51%
Asian American	39,833	394	79	2%	10%	19%	31%	38%	76%	78%	79%	68%	70%
Pacific Islander	3,051	332	64	10%	25%	30%	25%	10%	59%	62%	63%	52%	51%
Filipino	12,423	364	65	3%	14%	27%	36%	21%	69%	72%	73%	61%	63%
Hispanic	232,140	317	57	11%	32%	30%	20%	6%	54%	57%	59%	48%	46%
African American	39,117	309	57	16%	35%	27%	17%	5%	51%	54%	55%	45%	45%
White	148,291	366	69	4%	14%	24%	35%	23%	70%	72%	72%	60%	66%
Ethnicity unknown	3,747	343	70	8%	22%	27%	28%	15%	63%	65%	65%	53%	57%
English Only	268,616	350	71	7%	20%	26%	30%	18%	64%	67%	67%	56%	59%
Initially Fluent English Prof.	38,193	364	74	4%	16%	26%	31%	23%	68%	70%	72%	60%	62%
English Learner	114,350	297	48	17%	43%	28%	11%	2%	48%	49%	52%	43%	37%
Re-designated Fluent Eng.	60,564	360	61	2%	14%	32%	35%	17%	68%	71%	72%	60%	62%
English Prof. unknown	724	316	63	15%	31%	27%	20%	7%	54%	55%	57%	46%	47%
Not in NSLP	223,032	365	72	4%	15%	24%	33%	23%	69%	71%	72%	60%	64%
In NSLP	258,411	317	59	12%	32%	30%	20%	6%	54%	56%	58%	48%	46%
NSLP status unknown	1,004	315	67	17%	31%	25%	19%	8%	54%	55%	55%	47%	46%
Special Ed Services	43,771	284	55	32%	40%	16%	8%	3%	43%	44%	45%	38%	36%
No Special Ed Services	437,490	345	68	6%	23%	28%	28%	15%	63%	65%	67%	55%	56%
Special Ed unknown	1,186	316	63	15%	32%	28%	18%	7%	54%	55%	57%	46%	47%

Table 6.A.19: Demographic Summary for Mathematics Grade 7

				Percent in Proficiency Level					Mean Percent Correct in Content Area					
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Rational Numbers	Exponents, Powers, and Roots	Quantitative Relationships and Evaluating Expressions	Multi-step Problems, Graphing, and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	481,761	334	66	10%	25%	27%	24%	13%	58%	46%	53%	59%	51%	57%
Male	246,008	333	68	11%	26%	26%	24%	13%	58%	44%	52%	60%	51%	54%
Female	235,623	334	64	9%	25%	29%	25%	12%	57%	47%	54%	59%	51%	60%
Gender unknown	130	303	63	26%	30%	20%	16%	8%	49%	37%	43%	50%	42%	42%
American Indian	4,029	321	58	12%	29%	30%	22%	7%	55%	41%	49%	55%	49%	52%
Asian American	40,449	390	76	3%	9%	19%	32%	37%	73%	65%	69%	74%	67%	75%
Pacific Islander	3,078	329	60	9%	27%	31%	24%	9%	56%	45%	53%	58%	50%	55%
Filipino	12,504	357	61	4%	15%	29%	34%	19%	64%	54%	62%	67%	59%	68%
Hispanic	224,510	312	54	14%	33%	30%	18%	5%	51%	39%	47%	53%	44%	50%
African American	38,822	303	53	19%	35%	27%	15%	4%	48%	37%	45%	49%	42%	45%
White	154,318	356	66	5%	16%	26%	33%	19%	65%	52%	60%	67%	59%	65%
Ethnicity unknown	4,051	330	66	13%	25%	26%	24%	12%	57%	44%	52%	58%	52%	55%
English Only	273,332	342	67	9%	22%	27%	28%	15%	60%	48%	56%	62%	54%	60%
Initially Fluent English Prof.	38,539	357	71	5%	18%	27%	29%	21%	64%	53%	60%	66%	58%	65%
English Learner	102,911	292	47	21%	42%	25%	9%	2%	45%	34%	40%	46%	37%	41%
Re-designated Fluent Eng.	66,208	351	59	3%	17%	33%	32%	14%	63%	51%	59%	66%	56%	65%
English Prof. unknown	771	307	56	17%	34%	27%	16%	5%	50%	37%	45%	51%	44%	47%
Not in NSLP	245,041	354	69	6%	18%	26%	30%	20%	64%	51%	59%	66%	58%	64%
In NSLP	235,651	313	56	15%	33%	29%	18%	5%	51%	40%	47%	53%	44%	50%
NSLP status unknown	1,069	309	61	19%	34%	24%	17%	6%	50%	37%	45%	51%	44%	46%
Special Ed Services	42,317	278	48	36%	41%	15%	6%	2%	40%	30%	36%	39%	34%	36%
No Special Ed Services	438,122	339	65	8%	24%	29%	26%	14%	59%	47%	55%	61%	53%	59%
Special Ed unknown	1,322	306	59	19%	35%	25%	16%	5%	50%	37%	44%	51%	43%	45%

Table 6.A.20: Demographic Summary for General Mathematics

				Percent in Proficiency Level					Mean Percent Correct in Content Area					
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Rational Numbers	Exponents, Powers, and Roots	Quantitative Relationships and Evaluating Expressions	Multi-step Problems, Graphing, and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	368,957	310	52	15%	31%	32%	19%	3%	51%	43%	52%	47%	40%	50%
Grade 8	240,378	316	53	13%	29%	33%	22%	4%	53%	46%	55%	49%	42%	53%
Grade 9	128,579	298	47	20%	36%	30%	13%	1%	47%	39%	49%	43%	37%	46%
Male	198,956	309	53	17%	31%	30%	19%	3%	51%	43%	51%	47%	41%	48%
Female	169,838	312	50	13%	31%	34%	19%	3%	50%	43%	55%	47%	40%	53%
Gender unknown	163	294	53	26%	36%	21%	14%	3%	45%	37%	45%	42%	39%	41%
American Indian	4,025	307	51	17%	32%	30%	18%	3%	50%	42%	51%	45%	41%	49%
Asian American	17,428	336	56	8%	20%	32%	32%	8%	60%	54%	62%	55%	46%	58%
Pacific Islander	2,582	309	49	14%	33%	34%	17%	2%	50%	43%	54%	47%	39%	49%
Filipino	7,289	330	51	7%	22%	36%	29%	5%	57%	50%	62%	54%	45%	57%
Hispanic	183,274	300	47	18%	36%	31%	13%	1%	47%	39%	49%	44%	37%	47%
African American	33,665	292	47	23%	38%	27%	11%	1%	44%	37%	48%	40%	35%	44%
White	116,115	327	53	9%	24%	34%	28%	5%	57%	49%	58%	52%	46%	56%
Ethnicity unknown	4,579	303	53	20%	34%	27%	17%	3%	49%	41%	49%	44%	39%	46%
English Only	216,675	315	53	14%	29%	32%	22%	4%	53%	45%	54%	48%	42%	52%
Initially Fluent English Prof.	23,842	321	51	10%	27%	36%	23%	4%	54%	47%	57%	51%	43%	54%
English Learner	91,957	288	43	24%	42%	26%	8%	1%	43%	36%	44%	40%	34%	42%
Re-designated Fluent Eng.	35,513	329	48	6%	22%	41%	27%	4%	57%	49%	60%	53%	45%	58%
English Prof. unknown	970	298	51	22%	35%	27%	14%	2%	47%	39%	47%	43%	38%	45%
Not in NSLP	188,261	320	53	12%	27%	33%	24%	4%	54%	47%	56%	50%	44%	53%
In NSLP	179,296	300	48	19%	36%	30%	13%	2%	47%	39%	49%	44%	37%	47%
NSLP status unknown	1,400	296	50	23%	36%	26%	13%	2%	46%	39%	46%	42%	38%	44%
Special Ed Services	54,430	274	41	37%	42%	16%	5%	1%	38%	32%	38%	34%	31%	37%
No Special Ed Services	313,077	317	51	11%	29%	34%	22%	3%	53%	45%	55%	49%	42%	52%
Special Ed unknown	1,450	296	51	23%	37%	26%	13%	2%	47%	38%	46%	42%	38%	44%

Table 6.A.21: Demographic Summary for Algebra I

				Percent in Proficiency Level					Mean Percent Correct in Content Area			
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Number Properties, Operations, and Linear Equations	Graphing and Systems of Linear Equations	Quadratics and Polynomials	Functions and Rational Expressions
All valid scores	675,464	308	55	14%	37%	30%	16%	3%	53%	44%	40%	32%
Grade 8	223,378	330	66	10%	27%	29%	26%	8%	59%	51%	47%	37%
Grade 9	246,609	304	48	14%	37%	33%	15%	1%	52%	43%	39%	30%
Grade 10	134,255	290	40	18%	46%	29%	7%	0%	47%	38%	35%	28%
Grade 11	71,222	283	37	22%	50%	24%	4%	0%	44%	35%	33%	27%
Male	344,603	307	56	15%	37%	29%	16%	3%	52%	43%	39%	32%
Female	330,686	309	54	13%	37%	31%	16%	3%	53%	44%	41%	31%
Gender unknown	175	292	52	22%	41%	27%	7%	3%	47%	39%	35%	31%
American Indian	5,888	302	49	15%	38%	32%	14%	2%	52%	42%	38%	30%
Asian American	46,837	355	73	5%	19%	28%	32%	15%	66%	58%	53%	44%
Pacific Islander	4,552	305	50	13%	38%	32%	15%	2%	52%	43%	40%	30%
Filipino	17,305	325	55	8%	27%	37%	24%	4%	58%	50%	45%	34%
Hispanic	327,488	293	45	18%	44%	28%	9%	1%	47%	39%	36%	28%
African American	58,712	286	43	22%	46%	24%	7%	1%	44%	37%	35%	27%
White	207,669	326	57	8%	28%	35%	25%	5%	60%	49%	44%	35%
Ethnicity unknown	7,013	304	54	16%	37%	28%	16%	3%	52%	42%	38%	31%
English Only	384,643	313	56	12%	34%	32%	19%	4%	55%	45%	41%	32%
Initially Fluent English Prof.	54,750	320	61	10%	32%	32%	20%	6%	57%	47%	43%	34%
English Learner	138,445	283	42	24%	49%	21%	5%	1%	42%	36%	34%	27%
Re-designated Fluent Eng.	96,414	316	55	9%	34%	34%	19%	4%	56%	46%	42%	33%
English Prof. unknown	1,212	291	49	22%	42%	26%	9%	1%	46%	39%	35%	29%
Not in NSLP	375,014	318	59	11%	32%	32%	20%	5%	57%	47%	43%	34%
In NSLP	298,664	295	47	18%	43%	27%	10%	1%	48%	40%	37%	29%
NSLP status unknown	1,786	290	50	23%	43%	24%	8%	2%	46%	38%	35%	29%
Special Ed Services	52,506	273	39	33%	49%	14%	3%	0%	38%	33%	31%	26%
No Special Ed Services	621,161	311	55	13%	36%	31%	17%	3%	54%	45%	41%	32%
Special Ed unknown	1,797	291	51	22%	44%	24%	8%	2%	46%	38%	35%	29%

Table 6.A.22: Demographic Summary for Geometry

				Percent in Proficiency Level					Mean Percent Correct in Content Area			
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Logic and Geometric Proofs	Volume and Area Formulas	Angle Relationships, Constructions, and Lines	Trigonometry
All valid scores	331,509	315	66	13%	33%	27%	18%	8%	54%	53%	54%	53%
Grade 8	13,680	407	74	1%	5%	16%	35%	44%	78%	80%	79%	79%
Grade 9	101,668	349	67	5%	19%	30%	31%	16%	64%	65%	65%	64%
Grade 10	140,029	300	53	15%	39%	29%	14%	3%	50%	48%	50%	49%
Grade 11	76,132	279	44	24%	47%	22%	6%	1%	43%	41%	43%	41%
Male	158,771	318	68	14%	30%	27%	20%	9%	55%	54%	55%	53%
Female	172,689	312	64	12%	36%	27%	17%	7%	53%	52%	53%	53%
Gender unknown	49	305	59	12%	43%	31%	8%	6%	50%	51%	51%	50%
American Indian	2,268	309	58	12%	36%	30%	17%	5%	53%	51%	53%	52%
Asian American	37,538	360	80	5%	20%	25%	27%	24%	65%	66%	67%	68%
Pacific Islander	2,236	303	58	16%	38%	26%	16%	4%	50%	48%	50%	50%
Filipino	12,145	323	61	8%	31%	32%	22%	8%	56%	56%	57%	57%
Hispanic	126,006	289	50	19%	44%	24%	10%	2%	46%	44%	46%	45%
African American	24,865	278	48	27%	46%	19%	7%	1%	43%	41%	42%	41%
White	123,312	335	64	7%	24%	32%	26%	11%	61%	60%	61%	59%
Ethnicity unknown	3,139	319	68	13%	31%	27%	19%	9%	56%	55%	55%	54%
English Only	201,560	322	66	11%	29%	29%	21%	9%	57%	55%	56%	55%
Initially Fluent English Prof.	32,436	330	74	9%	30%	28%	20%	13%	58%	57%	58%	58%
English Learner	41,253	277	50	27%	48%	16%	6%	2%	42%	40%	41%	41%
Re-designated Fluent Eng.	55,892	309	62	13%	39%	27%	15%	6%	52%	50%	52%	52%
English Prof. unknown	368	298	63	19%	38%	24%	13%	5%	49%	48%	48%	48%
Not in NSLP	216,386	327	69	10%	28%	29%	22%	11%	58%	57%	58%	57%
In NSLP	114,513	292	54	19%	43%	24%	11%	3%	47%	45%	47%	46%
NSLP status unknown	610	300	63	19%	37%	23%	15%	5%	50%	48%	49%	48%
Special Ed Services	12,537	268	50	39%	40%	13%	5%	2%	39%	38%	39%	37%
No Special Ed Services	318,368	317	66	12%	33%	28%	19%	8%	55%	53%	55%	54%
Special Ed unknown	604	294	64	22%	39%	22%	12%	5%	47%	46%	47%	46%

Table 6.A.23: Demographic Summary for Algebra II

				Percent in Proficiency Level					Mean Percent Correct in Content Area			
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Polynomials and Rational Expressions	Quadratics, Conics, and Complex Numbers	Exponents and Logarithms	Series, Combinatorics, and Probability and Statistics
All valid scores	195,481	314	63	19%	27%	27%	20%	6%	57%	50%	55%	41%
Grade 8	492	391	95	11%	5%	15%	34%	35%	76%	69%	75%	59%
Grade 9	15,390	374	72	5%	10%	22%	38%	25%	74%	66%	73%	56%
Grade 10	85,045	331	62	11%	22%	31%	28%	8%	62%	55%	61%	45%
Grade 11	94,554	289	50	29%	34%	25%	11%	1%	49%	43%	47%	34%
Male	90,787	318	67	19%	25%	27%	22%	8%	57%	52%	57%	43%
Female	104,669	310	60	19%	29%	28%	19%	5%	57%	49%	54%	39%
Gender unknown	25	309	54	16%	40%	16%	28%	0%	60%	47%	49%	41%
American Indian	1,188	305	54	20%	30%	30%	17%	3%	54%	47%	53%	39%
Asian American	32,161	350	72	9%	17%	26%	32%	16%	69%	59%	66%	48%
Pacific Islander	1,162	299	54	23%	32%	27%	15%	2%	52%	47%	51%	36%
Filipino	8,371	310	54	16%	31%	30%	19%	3%	56%	49%	55%	39%
Hispanic	55,769	288	51	30%	34%	24%	11%	1%	49%	43%	47%	33%
African American	11,691	278	50	39%	32%	20%	8%	1%	45%	40%	44%	31%
White	83,338	323	61	13%	25%	31%	24%	7%	59%	53%	59%	45%
Ethnicity unknown	1,801	308	62	22%	28%	26%	20%	5%	54%	49%	53%	41%
English Only	126,075	316	62	17%	26%	29%	22%	6%	57%	51%	56%	42%
Initially Fluent English Prof.	22,290	327	70	15%	24%	26%	24%	10%	61%	53%	59%	43%
English Learner	13,210	285	61	39%	29%	18%	11%	3%	50%	42%	45%	31%
Re-designated Fluent Eng.	33,746	307	61	22%	30%	26%	17%	5%	56%	48%	53%	37%
English Prof. unknown	160	301	65	30%	26%	19%	20%	5%	53%	48%	50%	39%
Not in NSLP	142,443	321	65	16%	25%	29%	23%	7%	59%	52%	58%	43%
In NSLP	52,725	294	56	28%	32%	24%	13%	3%	52%	45%	49%	34%
NSLP status unknown	313	300	61	26%	31%	23%	15%	5%	53%	47%	50%	37%
Special Ed Services	2,842	282	61	41%	28%	17%	11%	3%	46%	41%	44%	34%
No Special Ed Services	192,388	314	63	19%	27%	28%	20%	6%	57%	50%	56%	41%
Special Ed unknown	251	300	67	31%	24%	24%	15%	6%	53%	46%	50%	38%

Table 6.A.24: Demographic Summary for Summative High School Mathematics

				Percent in Proficiency Level					Mean Percent Correct in Content Area			
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Algebra I	Geometry	Algebra II	Probability and Statistics
All valid scores	90,632	346	71	5%	22%	27%	32%	13%	72%	73%	61%	66%
Grade 9	615	386	91	6%	10%	17%	35%	32%	80%	79%	71%	74%
Grade 10	12,734	373	70	2%	12%	24%	41%	21%	79%	78%	69%	72%
Grade 11	77,283	341	70	5%	24%	28%	31%	12%	71%	72%	59%	65%
Male	43,182	355	74	4%	19%	25%	35%	17%	74%	74%	63%	69%
Female	47,445	337	68	5%	25%	29%	30%	10%	70%	71%	58%	63%
Gender unknown	5	316	90	20%	60%	0%	0%	20%	63%	67%	46%	52%
American Indian	409	329	65	5%	28%	30%	31%	6%	68%	68%	56%	64%
Asian American	24,277	378	74	2%	12%	21%	39%	26%	79%	80%	70%	71%
Pacific Islander	418	325	66	7%	28%	34%	24%	7%	67%	67%	54%	61%
Filipino	4,117	327	60	5%	29%	33%	27%	6%	67%	70%	56%	61%
Hispanic	16,366	306	58	10%	38%	30%	19%	3%	62%	63%	49%	55%
African American	3,182	295	60	16%	39%	26%	16%	2%	59%	59%	46%	51%
White	41,154	348	66	3%	20%	29%	36%	12%	73%	74%	61%	69%
Ethnicity unknown	709	344	69	5%	22%	30%	30%	13%	72%	72%	60%	66%
English Only	58,608	344	68	4%	22%	28%	34%	12%	72%	73%	60%	67%
Initially Fluent English Prof.	13,593	365	78	3%	18%	23%	35%	21%	76%	76%	66%	68%
English Learner	2,529	320	79	15%	29%	23%	22%	11%	65%	65%	54%	51%
Re-designated Fluent Eng.	15,848	337	73	6%	27%	27%	28%	12%	70%	70%	58%	61%
English Prof. unknown	54	343	80	4%	30%	28%	22%	17%	71%	69%	59%	70%
Not in NSLP	71,693	352	71	4%	20%	27%	35%	15%	73%	74%	62%	68%
In NSLP	18,863	321	67	9%	31%	28%	24%	7%	66%	67%	54%	57%
NSLP status unknown	76	344	84	12%	22%	22%	28%	16%	69%	69%	61%	65%
Special Ed Services	655	308	85	25%	22%	21%	23%	9%	60%	60%	51%	55%
No Special Ed Services	89,905	346	71	5%	22%	27%	33%	13%	72%	73%	61%	66%
Special Ed unknown	72	337	83	8%	25%	24%	29%	14%	68%	69%	59%	61%

Table 6.A.25: Demographic Summary for Integrated Mathematics 1

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Number Properties, Operations, and Linear Equations	Graphing	Quadratics and Polynomials	Functions and Rational Expressions	Geometry
All valid scores	8,503	276	50	32%	44%	17%	6%	1%	49%	42%	37%	27%	35%
Grade 8	329	296	57	25%	28%	31%	16%	1%	60%	55%	36%	23%	42%
Grade 9	2,990	295	60	23%	38%	24%	11%	4%	56%	48%	42%	30%	39%
Grade 10	2,261	263	38	39%	47%	12%	2%	0%	44%	37%	34%	25%	31%
Grade 11	2,923	266	39	36%	49%	12%	3%	0%	45%	38%	34%	25%	33%
Male	4,681	274	51	35%	42%	16%	6%	1%	48%	41%	36%	27%	35%
Female	3,818	279	48	28%	46%	18%	6%	1%	51%	43%	38%	27%	35%
Gender unknown	4	304	72	25%	25%	25%	25%	0%	57%	64%	41%	25%	45%
American Indian	71	280	51	25%	46%	21%	6%	1%	51%	46%	38%	25%	36%
Asian American	570	297	67	25%	36%	22%	13%	4%	54%	49%	44%	32%	40%
Pacific Islander	86	264	40	37%	49%	10%	3%	0%	45%	34%	36%	26%	31%
Filipino	513	280	49	25%	50%	17%	6%	2%	50%	42%	39%	27%	36%
Hispanic	2,973	265	43	40%	45%	12%	3%	1%	44%	38%	34%	26%	32%
African American	989	258	39	44%	45%	8%	2%	0%	40%	36%	33%	24%	31%
White	3,168	289	52	23%	42%	24%	9%	2%	56%	46%	39%	27%	38%
Ethnicity unknown	133	270	45	35%	47%	12%	5%	1%	48%	38%	34%	25%	34%
English Only	5,473	280	51	29%	44%	19%	7%	2%	51%	43%	37%	27%	36%
Initially Fluent English Prof.	800	284	54	27%	43%	20%	8%	3%	52%	44%	39%	29%	36%
English Learner	1,359	253	32	50%	43%	6%	1%	0%	37%	34%	31%	25%	29%
Re-designated Fluent Eng.	857	284	50	25%	46%	21%	7%	2%	52%	44%	40%	28%	36%
English Prof. unknown	14	269	48	50%	29%	14%	7%	0%	45%	43%	33%	20%	35%
Not in NSLP	5,503	282	51	27%	44%	20%	7%	2%	52%	44%	38%	27%	36%
In NSLP	2,957	265	46	41%	43%	12%	4%	1%	43%	38%	34%	26%	32%
NSLP status unknown	43	259	45	49%	33%	14%	5%	0%	46%	35%	29%	25%	31%
Special Ed Services	1,211	247	33	58%	36%	5%	1%	0%	35%	32%	30%	24%	29%
No Special Ed Services	7,266	281	51	27%	45%	19%	7%	2%	52%	43%	38%	27%	36%
Special Ed unknown	26	262	40	46%	38%	12%	4%	0%	44%	39%	32%	26%	29%

Table 6.A.26: Demographic Summary for Integrated Mathematics 2

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Algebra I	Logic and Geometric Proofs	Angle Relationships, Constructions, and Lines	Trigonometry	Algebra II/ Probability and Statistics
All valid scores	6,653	325	54	7%	27%	36%	23%	6%	44%	48%	44%	45%	41%
Grade 8	148	386	55	3%	2%	20%	53%	23%	62%	68%	57%	64%	67%
Grade 9	1,523	354	55	3%	13%	31%	41%	12%	53%	58%	50%	55%	51%
Grade 10	3,235	324	51	6%	27%	39%	22%	5%	44%	48%	44%	45%	40%
Grade 11	1,747	296	39	14%	42%	36%	8%	1%	36%	38%	37%	35%	32%
Male	3,358	328	58	8%	26%	34%	25%	7%	46%	48%	44%	45%	43%
Female	3,291	322	50	7%	29%	39%	22%	5%	43%	48%	44%	45%	39%
Gender unknown	4	278	33	25%	50%	25%	0%	0%	28%	33%	28%	40%	19%
American Indian	36	331	54	8%	19%	36%	31%	6%	46%	53%	45%	46%	44%
Asian American	1,055	345	61	5%	19%	33%	31%	12%	51%	54%	50%	51%	44%
Pacific Islander	64	298	45	17%	44%	27%	11%	2%	34%	39%	39%	39%	35%
Filipino	354	321	50	8%	24%	40%	24%	4%	43%	47%	44%	45%	37%
Hispanic	1,698	304	43	10%	39%	36%	13%	2%	39%	41%	38%	38%	34%
African American	465	296	45	15%	47%	27%	9%	2%	36%	38%	38%	36%	33%
White	2,894	336	53	5%	21%	38%	29%	7%	47%	52%	46%	49%	46%
Ethnicity unknown	87	309	44	13%	29%	40%	17%	1%	40%	43%	40%	40%	33%
English Only	4,344	328	53	6%	25%	37%	25%	6%	45%	49%	45%	46%	43%
Initially Fluent English Prof.	710	335	62	6%	25%	34%	25%	11%	47%	52%	47%	48%	43%
English Learner	709	299	45	13%	43%	33%	9%	2%	39%	38%	38%	37%	27%
Re-designated Fluent Eng.	870	323	51	8%	26%	38%	24%	4%	45%	47%	43%	44%	40%
English Prof. unknown	20	302	40	10%	40%	35%	15%	0%	38%	39%	36%	40%	39%
Not in NSLP	4,575	329	55	7%	25%	36%	26%	7%	45%	50%	45%	47%	43%
In NSLP	2,050	315	50	9%	33%	36%	18%	4%	42%	45%	42%	41%	37%
NSLP status unknown	28	314	54	11%	36%	32%	18%	4%	41%	44%	39%	45%	38%
Special Ed Services	256	285	38	19%	54%	22%	4%	1%	33%	34%	35%	32%	32%
No Special Ed Services	6,379	327	54	7%	26%	37%	24%	6%	45%	49%	44%	45%	41%
Special Ed unknown	18	310	43	6%	50%	22%	22%	0%	41%	42%	33%	42%	44%

Table 6.A. 27: Demographic Summary for Integrated Mathematics 3

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Geometry	Polynomials and Rational Expressions	Quadratics, Conics, and Complex Numbers	Exponents and Logarithms	Series, Combinatorics, and Probability and Statistics
All valid scores	3,551	328	67	10%	25%	33%	25%	7%	74%	50%	48%	52%	42%
Grade 8	12	409	162	33%	8%	0%	8%	50%	58%	62%	68%	66%	61%
Grade 9	177	391	71	3%	2%	24%	46%	25%	84%	64%	64%	71%	60%
Grade 10	1,363	347	65	5%	18%	34%	33%	11%	78%	55%	53%	59%	47%
Grade 11	1,999	309	60	14%	32%	33%	17%	3%	71%	45%	43%	47%	37%
Male	1,710	331	71	11%	25%	30%	26%	8%	75%	50%	49%	53%	44%
Female	1,841	326	63	10%	25%	35%	23%	6%	73%	50%	47%	52%	40%
Gender unknown	0	---	---	---	---	---	---	---	---	---	---	---	---
American Indian	14	311	73	14%	36%	29%	14%	7%	67%	49%	43%	43%	39%
Asian American	818	359	77	6%	16%	29%	33%	16%	79%	59%	55%	60%	49%
Pacific Islander	22	296	48	9%	55%	23%	14%	0%	67%	45%	37%	43%	30%
Filipino	194	324	62	8%	31%	33%	23%	6%	72%	50%	47%	51%	40%
Hispanic	694	302	54	17%	35%	33%	14%	2%	69%	43%	42%	45%	34%
African American	134	300	57	18%	30%	33%	18%	1%	66%	42%	42%	46%	34%
White	1,652	328	62	9%	24%	35%	26%	6%	75%	49%	48%	53%	43%
Ethnicity unknown	23	316	87	26%	26%	22%	13%	13%	69%	44%	47%	45%	41%
English Only	2,291	325	64	10%	25%	34%	24%	6%	74%	48%	47%	52%	42%
Initially Fluent English Prof.	446	349	74	7%	19%	31%	31%	13%	79%	56%	53%	58%	46%
English Learner	205	311	73	20%	31%	27%	16%	7%	66%	49%	44%	46%	33%
Re-designated Fluent Eng.	605	330	69	11%	26%	31%	24%	8%	73%	51%	49%	52%	41%
English Prof. unknown	4	307	85	25%	25%	25%	25%	0%	60%	45%	45%	42%	43%
Not in NSLP	2,588	327	66	10%	25%	34%	24%	7%	74%	50%	48%	52%	42%
In NSLP	952	331	71	11%	24%	30%	26%	9%	74%	51%	48%	53%	42%
NSLP status unknown	11	311	65	18%	18%	45%	9%	9%	75%	38%	45%	48%	45%
Special Ed Services	57	272	54	37%	32%	25%	7%	0%	61%	36%	35%	35%	29%
No Special Ed Services	3,490	329	67	10%	25%	33%	25%	7%	75%	50%	48%	53%	42%
Special Ed unknown	4	309	84	25%	25%	25%	25%	0%	60%	41%	47%	48%	40%

Table 6.A.28: Demographic Summary for Science Grade 5

				Percent in Proficiency Level					Mean Percent Correct in Content Area					
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Physical Science Grade 5	Physical Science Grade 4	Life Science Grade 5	Life Science Grade 4	Earth Science Grade 5	Earth Science Grade 4
All valid scores	484,500	325	48	11%	23%	38%	23%	5%	52%	49%	51%	53%	50%	46%
Male	247,200	327	51	12%	22%	35%	25%	7%	53%	51%	51%	53%	51%	48%
Female	237,175	322	45	10%	23%	40%	22%	4%	52%	47%	51%	53%	49%	45%
Gender unknown	125	307	53	26%	27%	27%	15%	5%	43%	44%	45%	47%	42%	40%
American Indian	3,945	322	45	11%	23%	39%	23%	3%	52%	48%	50%	53%	48%	46%
Asian American	39,262	351	53	5%	13%	33%	36%	14%	61%	59%	60%	61%	60%	56%
Pacific Islander	3,093	319	43	10%	26%	40%	21%	3%	51%	47%	49%	51%	47%	43%
Filipino	12,288	341	44	4%	13%	42%	34%	7%	60%	56%	57%	59%	56%	52%
Hispanic	237,599	307	39	16%	30%	40%	13%	1%	46%	43%	45%	46%	44%	39%
African American	39,203	308	41	17%	30%	38%	14%	2%	47%	43%	46%	47%	43%	37%
White	145,487	349	48	4%	11%	35%	38%	11%	61%	57%	59%	62%	58%	57%
Ethnicity unknown	3,623	333	50	10%	18%	36%	29%	7%	55%	52%	54%	56%	53%	50%
English Only	266,376	336	49	8%	17%	37%	30%	8%	57%	53%	55%	58%	54%	51%
Initially Fluent English Prof.	38,031	339	48	5%	16%	41%	30%	8%	58%	54%	56%	58%	56%	51%
English Learner	134,461	294	33	22%	38%	34%	6%	0%	40%	39%	40%	41%	39%	34%
Re-designated Fluent Eng.	44,896	337	39	2%	14%	50%	29%	5%	57%	53%	55%	57%	56%	51%
English Prof. unknown	736	308	46	19%	29%	33%	16%	3%	45%	43%	45%	48%	44%	40%
Not in NSLP	211,277	347	49	5%	13%	36%	36%	10%	60%	57%	59%	61%	58%	55%
In NSLP	272,151	308	40	16%	30%	39%	13%	1%	46%	43%	45%	47%	44%	39%
NSLP status unknown	1,072	309	47	20%	29%	32%	16%	3%	45%	43%	46%	48%	44%	40%
Special Ed Services	46,336	296	45	29%	33%	26%	10%	2%	41%	40%	41%	42%	39%	36%
No Special Ed Services	437,001	328	48	9%	21%	39%	25%	6%	53%	50%	52%	54%	51%	47%
Special Ed unknown	1,163	308	45	19%	28%	35%	15%	2%	46%	44%	45%	47%	44%	40%

Table 6.A.29: Demographic Summary for Biology

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Cell Biology	Genetics	Ecology and Evolution	Physiology
All valid scores	451,532	331	46	9%	18%	41%	23%	9%	49%	47%	50%	52%	58%
Grade 9	144,059	340	48	7%	14%	37%	29%	13%	52%	51%	54%	56%	61%
Grade 10	221,499	326	42	10%	20%	43%	21%	6%	46%	44%	48%	50%	57%
Grade 11	85,974	330	51	11%	20%	39%	20%	10%	48%	45%	49%	51%	58%
Male	221,751	331	49	11%	19%	37%	23%	10%	49%	47%	49%	52%	58%
Female	229,689	332	44	7%	17%	44%	24%	8%	49%	46%	51%	52%	59%
Gender unknown	92	312	39	16%	24%	41%	16%	2%	42%	42%	41%	43%	52%
American Indian	3,524	327	42	10%	20%	42%	22%	6%	47%	44%	48%	51%	58%
Asian American	46,757	358	53	4%	9%	33%	32%	21%	58%	59%	60%	63%	67%
Pacific Islander	3,027	321	40	12%	21%	45%	19%	4%	44%	43%	47%	48%	53%
Filipino	14,436	342	40	4%	10%	46%	31%	9%	52%	52%	55%	57%	65%
Hispanic	182,201	313	37	14%	26%	44%	14%	2%	41%	40%	44%	44%	50%
African American	35,423	311	37	16%	27%	42%	13%	2%	39%	39%	43%	43%	50%
White	161,565	347	47	5%	11%	38%	33%	14%	56%	52%	56%	60%	66%
Ethnicity unknown	4,599	328	48	13%	18%	37%	22%	9%	48%	45%	49%	51%	58%
English Only	275,821	337	47	8%	15%	39%	27%	11%	51%	49%	52%	55%	62%
Initially Fluent English Prof.	42,125	343	49	6%	13%	41%	27%	13%	53%	51%	55%	57%	63%
English Learner	66,777	298	29	22%	36%	37%	5%	1%	35%	35%	38%	36%	41%
Re-designated Fluent Eng.	66,147	331	40	6%	16%	49%	23%	6%	48%	47%	50%	52%	58%
English Prof. unknown	662	312	40	19%	27%	36%	16%	3%	41%	39%	42%	44%	51%
Not in NSLP	287,598	340	48	7%	14%	39%	28%	12%	53%	50%	54%	56%	63%
In NSLP	162,849	315	38	14%	25%	44%	15%	3%	42%	41%	44%	45%	51%
NSLP status unknown	1,085	310	40	20%	26%	36%	15%	2%	40%	38%	42%	43%	50%
Special Ed Services	28,345	295	35	30%	36%	27%	6%	2%	34%	34%	36%	36%	40%
No Special Ed Services	422,210	334	46	8%	17%	41%	24%	9%	50%	47%	51%	53%	60%
Special Ed unknown	977	309	40	20%	29%	34%	14%	3%	39%	38%	41%	42%	49%

Table 6.A.30: Demographic Summary for Chemistry

				Percent in Proficiency Level					Mean Percent Correct in Content Area					
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Atomic and Molecular Structure	Chemical Bonds, Biochemistry	Kinetics, Thermodynamics	Chemical Reactions	Conservation of Matter and Stoichiometry
All valid scores	196,248	327	45	10%	20%	42%	20%	7%	60%	57%	52%	52%	45%	55%
Grade 9	2,824	327	51	17%	18%	33%	23%	9%	59%	58%	51%	53%	44%	56%
Grade 10	82,529	333	46	8%	17%	42%	24%	9%	63%	60%	55%	55%	47%	58%
Grade 11	110,895	322	44	12%	22%	43%	16%	6%	58%	55%	50%	50%	43%	52%
Male	89,977	331	49	11%	18%	38%	22%	10%	61%	59%	54%	54%	47%	56%
Female	106,252	323	41	10%	21%	46%	18%	5%	59%	55%	51%	50%	43%	54%
Gender unknown	19	312	43	11%	47%	16%	21%	5%	53%	41%	50%	50%	39%	45%
American Indian	1,088	326	40	8%	19%	47%	21%	5%	62%	58%	52%	52%	44%	54%
Asian American	31,568	349	49	4%	11%	40%	28%	16%	67%	64%	61%	60%	53%	66%
Pacific Islander	1,218	314	38	13%	25%	45%	14%	3%	53%	53%	47%	47%	40%	50%
Filipino	8,427	326	38	6%	19%	51%	20%	4%	60%	57%	53%	52%	44%	56%
Hispanic	62,099	306	36	18%	30%	41%	9%	2%	50%	50%	44%	43%	36%	46%
African American	13,695	301	35	22%	33%	36%	7%	1%	47%	47%	42%	41%	34%	43%
White	76,447	339	44	6%	13%	44%	27%	10%	68%	62%	57%	57%	50%	60%
Ethnicity unknown	1,706	329	46	10%	18%	41%	22%	8%	63%	57%	52%	54%	45%	55%
English Only	121,004	332	45	8%	17%	44%	23%	8%	64%	59%	54%	54%	47%	57%
Initially Fluent English Prof.	23,025	335	49	7%	17%	42%	22%	11%	63%	60%	55%	55%	48%	59%
English Learner	15,198	293	33	29%	36%	29%	5%	1%	39%	44%	39%	38%	31%	41%
Re-designated Fluent Eng.	36,864	318	41	12%	25%	44%	15%	5%	55%	54%	49%	48%	41%	52%
English Prof. unknown	157	310	41	21%	22%	39%	16%	3%	51%	51%	47%	46%	37%	47%
Not in NSLP	137,691	334	46	8%	16%	43%	23%	10%	64%	60%	55%	55%	48%	58%
In NSLP	58,276	310	38	16%	28%	41%	11%	3%	51%	51%	46%	45%	38%	48%
NSLP status unknown	281	311	41	19%	22%	43%	13%	3%	54%	52%	45%	46%	37%	46%
Special Ed Services	3,819	296	42	34%	31%	24%	7%	3%	42%	44%	39%	39%	33%	40%
No Special Ed Services	192,157	327	45	10%	20%	43%	20%	8%	60%	57%	52%	52%	45%	55%
Special Ed unknown	272	311	43	22%	25%	38%	11%	4%	53%	51%	47%	46%	38%	46%

Table 6.A.31: Demographic Summary for Earth Science

				Percent in Proficiency Level					Mean Percent Correct in Content Area			
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Astronomy and Cosmology	Solid Earth	The Earth's Energy
All valid scores	172,443	319	43	18%	22%	37%	18%	6%	53%	49%	50%	45%
Grade 9	114,951	322	44	16%	20%	39%	19%	7%	55%	51%	51%	46%
Grade 10	29,224	309	40	23%	25%	35%	13%	3%	48%	44%	45%	41%
Grade 11	28,268	316	43	20%	23%	36%	16%	5%	51%	46%	48%	44%
Male	91,379	321	46	18%	20%	34%	19%	8%	52%	50%	50%	47%
Female	81,004	316	39	17%	23%	41%	15%	4%	54%	48%	49%	43%
Gender unknown	60	305	38	25%	33%	25%	15%	2%	42%	43%	43%	40%
American Indian	1,842	321	43	16%	21%	38%	20%	6%	53%	50%	50%	46%
Asian American	10,703	332	45	11%	16%	39%	24%	10%	60%	54%	56%	50%
Pacific Islander	1,226	314	39	19%	23%	41%	14%	3%	51%	46%	48%	43%
Filipino	3,667	330	40	9%	17%	44%	24%	7%	60%	54%	55%	49%
Hispanic	78,193	307	37	22%	27%	38%	11%	2%	47%	44%	45%	40%
African American	14,561	302	36	27%	28%	34%	9%	2%	45%	41%	42%	38%
White	60,216	335	46	11%	15%	37%	26%	11%	61%	56%	56%	52%
Ethnicity unknown	2,035	319	46	21%	21%	32%	18%	8%	52%	48%	49%	45%
English Only	106,872	325	45	15%	19%	37%	21%	8%	56%	52%	52%	48%
Initially Fluent English Prof.	12,326	322	41	14%	20%	42%	19%	6%	55%	50%	51%	46%
English Learner	34,925	295	30	30%	33%	32%	5%	1%	41%	38%	39%	35%
Re-designated Fluent Eng.	17,926	324	38	10%	18%	48%	20%	4%	57%	52%	53%	47%
English Prof. unknown	394	303	39	28%	29%	29%	12%	2%	45%	41%	42%	39%
Not in NSLP	102,444	327	45	14%	18%	37%	22%	8%	57%	52%	53%	48%
In NSLP	69,460	307	37	22%	27%	38%	11%	2%	47%	44%	45%	40%
NSLP status unknown	539	301	38	29%	30%	29%	11%	2%	43%	41%	41%	38%
Special Ed Services	17,596	292	35	37%	31%	24%	6%	1%	38%	37%	37%	35%
No Special Ed Services	154,364	322	43	15%	20%	39%	19%	6%	55%	50%	51%	46%
Special Ed unknown	483	301	37	28%	28%	32%	11%	2%	43%	41%	42%	38%

Table 6.A.32: Demographic Summary for Physics

				Percent in Proficiency Level					Mean Percent Correct in Content Area					
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Motion and Forces	Conservation of Energy and Momentum	Heat and Thermodynamics	Waves	Electric and Magnetic Phenomena
All valid scores	59,149	326	48	17%	18%	34%	22%	9%	52%	57%	53%	55%	47%	48%
Grade 9	17,303	304	40	27%	27%	32%	11%	3%	42%	49%	43%	46%	38%	40%
Grade 10	7,405	319	49	22%	19%	32%	18%	8%	49%	55%	49%	52%	45%	46%
Grade 11	34,441	338	48	10%	14%	36%	28%	12%	57%	62%	58%	60%	52%	53%
Male	31,054	333	52	16%	16%	31%	24%	13%	56%	60%	54%	57%	50%	52%
Female	28,086	318	43	18%	21%	38%	19%	5%	47%	54%	52%	52%	44%	44%
Gender unknown	9	306	59	33%	11%	33%	11%	11%	50%	54%	38%	46%	33%	47%
American Indian	368	322	45	17%	18%	34%	24%	6%	52%	57%	50%	54%	47%	46%
Asian American	9,939	348	48	6%	10%	36%	31%	17%	59%	66%	64%	63%	56%	57%
Pacific Islander	384	311	42	20%	25%	38%	13%	4%	45%	52%	46%	49%	40%	42%
Filipino	2,635	326	40	11%	16%	45%	23%	5%	51%	58%	55%	55%	47%	48%
Hispanic	17,228	300	38	31%	27%	30%	10%	2%	40%	47%	43%	44%	36%	38%
African American	4,162	295	36	34%	29%	29%	7%	1%	38%	44%	40%	43%	34%	36%
White	23,846	341	47	8%	13%	37%	29%	13%	60%	64%	57%	62%	54%	54%
Ethnicity unknown	587	323	49	20%	20%	31%	21%	8%	50%	56%	50%	53%	46%	48%
English Only	36,951	332	48	13%	16%	36%	25%	10%	55%	60%	54%	58%	50%	51%
Initially Fluent English Prof.	7,056	337	49	11%	15%	36%	26%	12%	56%	62%	58%	59%	51%	52%
English Learner	5,442	283	31	50%	30%	15%	3%	1%	32%	39%	36%	35%	30%	31%
Re-designated Fluent Eng.	9,648	318	43	16%	22%	39%	16%	6%	47%	55%	52%	51%	43%	45%
English Prof. unknown	52	323	41	13%	15%	40%	29%	2%	53%	60%	52%	56%	44%	45%
Not in NSLP	41,171	336	48	12%	15%	36%	26%	12%	56%	62%	56%	59%	51%	52%
In NSLP	17,877	303	40	29%	26%	32%	11%	3%	41%	48%	44%	45%	37%	39%
NSLP status unknown	101	307	43	30%	21%	30%	17%	3%	44%	50%	44%	47%	40%	43%
Special Ed Services	2,133	285	36	50%	29%	14%	5%	2%	35%	39%	34%	37%	31%	33%
No Special Ed Services	56,937	327	48	16%	18%	35%	22%	9%	52%	58%	53%	55%	48%	49%
Special Ed unknown	79	309	40	23%	30%	27%	19%	1%	46%	53%	45%	47%	38%	41%

Table 6.A.33: Demographic Summary for Integrated Science 1

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	110,724	300	32	20%	32%	40%	7%	1%	43%	46%	37%	45%	30%
Grade 9	83,656	302	32	18%	31%	42%	8%	1%	44%	47%	38%	47%	31%
Grade 10	15,767	292	30	27%	36%	32%	4%	0%	39%	42%	35%	41%	28%
Grade 11	11,301	293	30	26%	35%	35%	4%	0%	39%	43%	34%	41%	28%
Male	58,747	301	34	22%	30%	39%	8%	1%	43%	47%	37%	46%	31%
Female	51,954	298	29	19%	35%	41%	5%	0%	43%	45%	37%	44%	29%
Gender unknown	23	287	26	30%	35%	30%	4%	0%	41%	38%	29%	41%	25%
American Indian	1,007	299	31	20%	32%	42%	6%	0%	43%	47%	36%	45%	30%
Asian American	6,975	316	36	11%	23%	49%	14%	3%	51%	54%	43%	53%	35%
Pacific Islander	826	296	29	21%	38%	36%	5%	0%	40%	44%	37%	42%	29%
Filipino	3,474	312	30	9%	25%	55%	10%	1%	49%	53%	42%	51%	33%
Hispanic	58,588	292	28	25%	38%	34%	3%	0%	39%	41%	35%	41%	27%
African American	10,473	290	28	28%	38%	32%	2%	0%	38%	40%	34%	40%	27%
White	28,257	314	34	11%	22%	51%	14%	2%	51%	55%	41%	53%	35%
Ethnicity unknown	1,124	302	35	20%	29%	42%	8%	1%	46%	48%	37%	46%	31%
English Only	58,706	305	34	17%	28%	44%	9%	1%	46%	49%	38%	48%	32%
Initially Fluent English Prof.	9,249	306	32	15%	29%	47%	8%	1%	46%	50%	39%	48%	31%
English Learner	24,916	283	25	34%	43%	22%	1%	0%	33%	35%	32%	36%	26%
Re-designated Fluent Eng.	17,662	303	28	14%	32%	48%	5%	0%	45%	48%	39%	47%	29%
English Prof. unknown	191	293	28	24%	38%	35%	4%	0%	41%	43%	36%	40%	27%
Not in NSLP	56,340	306	34	16%	28%	45%	10%	1%	47%	50%	39%	49%	32%
In NSLP	54,131	293	28	25%	37%	34%	3%	0%	39%	41%	35%	41%	28%
NSLP status unknown	253	289	30	30%	38%	28%	4%	0%	37%	41%	33%	39%	28%
Special Ed Services	11,977	280	27	42%	38%	19%	2%	0%	32%	34%	30%	35%	26%
No Special Ed Services	98,432	302	32	18%	32%	43%	7%	1%	44%	47%	38%	46%	30%
Special Ed unknown	315	289	29	27%	44%	25%	4%	0%	37%	42%	34%	37%	27%

Table 6.A.34: Demographic Summary for Integrated Science 2

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	20,563	298	29	21%	33%	40%	5%	1%	40%	40%	36%	46%	35%
Grade 9	3,968	299	31	22%	31%	39%	7%	0%	40%	40%	37%	46%	37%
Grade 10	12,394	300	30	20%	32%	42%	5%	1%	41%	41%	37%	47%	35%
Grade 11	4,201	291	25	25%	39%	35%	2%	0%	39%	37%	33%	42%	32%
Male	10,890	298	31	24%	31%	39%	5%	1%	41%	39%	36%	47%	35%
Female	9,672	298	28	19%	35%	41%	4%	0%	40%	41%	37%	45%	35%
Gender unknown	1	278	0	0%	100%	0%	0%	0%	17%	13%	67%	33%	33%
American Indian	155	299	28	17%	35%	42%	5%	1%	41%	40%	36%	46%	35%
Asian American	1,848	317	36	10%	23%	48%	16%	3%	46%	49%	48%	53%	44%
Pacific Islander	169	291	25	28%	33%	37%	1%	0%	39%	37%	33%	42%	32%
Filipino	845	303	26	14%	32%	50%	4%	0%	44%	41%	40%	48%	37%
Hispanic	9,883	290	25	27%	39%	33%	1%	0%	37%	37%	33%	41%	32%
African American	1,788	289	25	30%	37%	32%	1%	0%	37%	37%	33%	41%	31%
White	5,692	307	31	15%	26%	51%	8%	1%	45%	43%	40%	52%	38%
Ethnicity unknown	183	305	33	17%	24%	48%	10%	1%	44%	42%	40%	50%	39%
English Only	11,281	302	31	19%	30%	44%	6%	1%	43%	41%	38%	49%	36%
Initially Fluent English Prof.	1,777	301	28	17%	31%	46%	5%	0%	41%	41%	38%	48%	36%
English Learner	4,334	284	22	35%	43%	21%	1%	0%	34%	34%	31%	36%	30%
Re-designated Fluent Eng.	3,134	301	27	15%	33%	47%	4%	0%	41%	42%	39%	47%	36%
English Prof. unknown	37	298	26	22%	19%	59%	0%	0%	41%	36%	41%	48%	35%
Not in NSLP	12,590	303	31	18%	30%	45%	7%	1%	43%	42%	39%	49%	37%
In NSLP	7,923	290	25	28%	38%	33%	1%	0%	37%	37%	33%	41%	32%
NSLP status unknown	50	291	24	26%	30%	44%	0%	0%	41%	35%	36%	44%	31%
Special Ed Services	2,354	280	23	43%	38%	18%	0%	0%	34%	33%	29%	36%	29%
No Special Ed Services	18,133	300	29	19%	32%	43%	5%	1%	41%	41%	38%	47%	36%
Special Ed unknown	76	288	25	30%	34%	36%	0%	0%	36%	35%	31%	42%	32%

Table 6.A.35: Demographic Summary for Integrated Science 3

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	3,398	300	30	18%	37%	37%	7%	1%	39%	43%	33%	42%	33%
Grade 9	464	286	21	24%	51%	25%	1%	0%	33%	36%	27%	36%	29%
Grade 10	782	297	29	20%	38%	35%	7%	0%	36%	42%	32%	41%	32%
Grade 11	2,152	304	32	16%	34%	41%	8%	1%	41%	46%	34%	43%	33%
Male	1,769	300	32	19%	38%	35%	8%	1%	38%	43%	33%	43%	33%
Female	1,628	300	29	17%	37%	41%	5%	1%	40%	43%	33%	41%	32%
Gender unknown	1	318	0	0%	0%	100%	0%	0%	0%	56%	35%	71%	63%
American Indian	41	306	34	22%	24%	37%	17%	0%	45%	47%	34%	46%	36%
Asian American	507	306	31	14%	32%	44%	10%	1%	42%	46%	36%	45%	34%
Pacific Islander	28	294	24	21%	36%	39%	4%	0%	35%	42%	30%	36%	33%
Filipino	75	307	30	16%	27%	49%	7%	1%	42%	48%	36%	46%	35%
Hispanic	1,431	294	26	20%	42%	35%	3%	0%	36%	40%	31%	40%	31%
African American	428	293	26	23%	41%	32%	3%	0%	34%	41%	30%	38%	29%
White	857	308	35	13%	32%	41%	12%	2%	44%	48%	36%	45%	36%
Ethnicity unknown	31	313	42	19%	19%	32%	29%	0%	43%	52%	40%	46%	35%
English Only	1,822	302	32	18%	35%	38%	9%	1%	40%	45%	33%	42%	33%
Initially Fluent English Prof.	284	302	30	15%	36%	40%	8%	1%	39%	44%	34%	43%	33%
English Learner	552	287	24	28%	46%	24%	1%	0%	32%	35%	30%	36%	29%
Re-designated Fluent Eng.	732	304	28	10%	36%	47%	6%	0%	41%	45%	35%	45%	33%
English Prof. unknown	8	274	20	63%	25%	13%	0%	0%	15%	30%	25%	32%	28%
Not in NSLP	2,089	302	32	17%	35%	39%	8%	1%	40%	45%	34%	42%	33%
In NSLP	1,303	296	28	19%	41%	35%	4%	0%	37%	41%	32%	41%	32%
NSLP status unknown	6	276	23	50%	33%	17%	0%	0%	14%	34%	25%	33%	27%
Special Ed Services	264	281	22	38%	44%	18%	1%	0%	29%	34%	26%	33%	26%
No Special Ed Services	3,124	301	31	16%	37%	39%	7%	1%	40%	44%	34%	43%	33%
Special Ed unknown	10	278	19	50%	40%	10%	0%	0%	23%	31%	25%	34%	29%

Table 6.A.36: Demographic Summary for Integrated Science 4

				Percent in Proficiency Level					Mean Percent Correct in Content Area				
	Number Tested	Mean Scale Score	Std. Dev. of Scale Scores	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	1,031	316	44	20%	18%	37%	21%	5%	55%	57%	42%	51%	44%
Grade 9	156	320	43	17%	12%	39%	28%	4%	59%	54%	42%	56%	47%
Grade 10	666	317	45	19%	20%	36%	20%	6%	54%	59%	43%	50%	44%
Grade 11	209	311	42	24%	15%	40%	19%	2%	53%	55%	39%	50%	41%
Male	523	319	47	20%	17%	34%	22%	7%	55%	58%	43%	52%	44%
Female	508	314	40	19%	19%	40%	19%	3%	54%	56%	41%	50%	43%
Gender unknown	0	---	---	---	---	---	---	---	---	---	---	---	---
American Indian	5	327	32	0%	20%	60%	20%	0%	67%	63%	50%	61%	38%
Asian American	184	309	40	18%	23%	40%	17%	2%	46%	54%	41%	46%	44%
Pacific Islander	2	313	52	0%	50%	0%	50%	0%	50%	46%	55%	43%	50%
Filipino	13	319	35	15%	15%	54%	15%	0%	64%	57%	35%	58%	45%
Hispanic	335	292	32	35%	26%	34%	5%	1%	40%	48%	33%	39%	34%
African American	28	314	53	21%	25%	25%	21%	7%	61%	58%	36%	49%	42%
White	454	338	42	9%	9%	39%	34%	9%	69%	66%	49%	62%	51%
Ethnicity unknown	10	309	46	20%	30%	30%	10%	10%	38%	53%	43%	49%	42%
English Only	726	325	45	17%	13%	37%	27%	6%	61%	61%	44%	56%	46%
Initially Fluent English Prof.	40	324	43	8%	23%	45%	20%	5%	55%	60%	45%	54%	46%
English Learner	187	286	28	36%	34%	26%	4%	0%	33%	43%	33%	34%	35%
Re-designated Fluent Eng.	75	307	30	12%	21%	60%	5%	1%	51%	56%	39%	46%	39%
English Prof. unknown	3	291	12	0%	67%	33%	0%	0%	28%	36%	47%	47%	29%
Not in NSLP	731	326	44	14%	14%	40%	26%	7%	61%	61%	45%	56%	47%
In NSLP	286	292	33	32%	29%	32%	7%	0%	39%	48%	34%	38%	35%
NSLP status unknown	14	285	41	50%	14%	21%	14%	0%	33%	42%	32%	39%	33%
Special Ed Services	84	288	40	44%	30%	15%	8%	2%	37%	43%	34%	38%	33%
No Special Ed Services	942	319	43	18%	17%	39%	21%	5%	56%	58%	43%	52%	45%
Special Ed unknown	5	338	45	0%	20%	20%	60%	0%	47%	66%	62%	64%	50%

Appendix 6.B — Test Variations, Accommodations, and Modifications

Table 6.B.1: Matrix of Test Variations, Accommodations, and Modifications

Test Variation (1) / Accommodation (2) / Modification (3) *	Provision
Test administration directions that are simplified or clarified (does not apply to test questions)	All
Test individual student separately, provided that a test examiner directly supervises the student	1
Visual magnifying equipment	1
Audio amplification equipment	1
Noise buffers (e.g. individual carrel or study enclosure)	1
Special lighting or acoustics; special or adaptive furniture	1
Colored overlay, mask, or other means to maintain visual attention	1
Manually Coded English or American Sign Language to present directions for administration (does not apply to test questions)	1
Student marks in test booklet (other than responses)	All (grades 4–11) 1 (grades 2 and 3)
Student marks responses in test booklet and responses are transferred to a scorable answer document by an employee of the school, district, or nonpublic school	2
Responses dictated [orally, or in Manually coded English or American Sign Language] to a scribe for selected-response items (multiple-choice questions)	2
Word processing software with spell and grammar check tools turned off for the essay responses (writing portion of the test)	2
Essay responses dictated orally or in Manually Coded English to a scribe, audio recorder, or speech-to-text converter and the student provides all spelling and language conventions.	2
Assistive device that does not interfere with the independent work of the student on the multiple-choice and/or essay responses (writing portion of the test)	2
Braille transcriptions provided by the test contractor	2
Large print versions	All
Extra time on a test within a testing day	2
Test over more than one day for a test or test part to be administered in a single sitting	2
Supervised breaks within a section of the test	2
Administration of the test at the most beneficial time of day to the student	2
Test administered at home or in hospital by a test examiner	2

Test Variation (1) / Accommodation (2) / Modification (3) *	Provision
Dictionary	3
Manually Coded English or American Sign Language to present test questions	2 (Math, science, history-social science) 3 (ELA)
Test questions read aloud to student or audio presentation (CD)	2 (Math, science, history-social science) 3 (ELA)
Calculators on the mathematics or science tests	3
Arithmetic table on the mathematics or science tests	3
Math manipulatives on the mathematics or science tests	3
Essay responses dictated orally, in Manually Coded English, or in American Sign Language to a scribe, [audio recorder, or speech-to-text converter] (scribe provides spelling, grammar, and language conventions).	3
Word processing software with spell and grammar check tools enabled on the essay responses writing portion of test	3
Assistive device that interferes with the independent work of the student on the multiple-choice and/or essay responses	3

* ALL = These test variations may be provided to all students.
Test Variation (1) = Eligible students may have testing variations if regularly used in the classroom.

Accommodation (2) = Eligible students shall be permitted to take the examination/test with accommodations if specified in the eligible student's IEP or Section 504 Plan for use on the examination, standardized testing, or for use during classroom instruction and assessment.

Modification (3) = Eligible students shall be permitted to take the tests with modifications if specified in the eligible student's IEP or Section 504 Plan.

Table 6.B.2: Matrix of Test Variations for English Learners

Test Variation	Provision
Hear the test directions printed in the test administration manual translated into the student's primary language. Ask clarifying questions about the test directions in the student's primary language.	Variation Allowed
Additional supervised breaks within a testing day or following each section (STAR) within a test part provided that the test section is completed within a testing day. A test section is identified by a "STOP" at the end of it.	Variation Allowed
ELs may have the opportunity to be tested separately with other ELs provided that the student is directly supervised by an employee of the school who has signed the test security affidavit and the student has been provided such a flexible setting as part of his/her regular instruction or assessment.	Variation Allowed
Access to translation glossaries/word lists (English-to-primary language). Glossaries/word lists shall not include definitions or formulas.	Variation Allowed Math, science, history-social science

Appendix 6.C — Accommodation Summary Tables

Table 6.C.1: Accommodation Summary for English-Language Arts Grade 2

Accommodation Summary for English-Language Arts Grade 2						
All Tested	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	21	0	2	0	23	0.00%
Large print	164	2	2	0	168	0.04%
Section 504 Plan accommodations	249	2	2	0	253	0.05%
IEP accommodations	9,276	190	122	0	9,588	2.04%
Section 504 Plan modifications	59	2	0	0	61	0.01%
IEP modifications	1,845	73	85	0	2,003	0.43%
Any accommodation or modification	10,520	216	157	0	10,893	2.32%
No accommodations or modifications	458,832	134	116	0	459,082	97.68%
Students Not in Special Education	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	3	0	0	0	3	0.00%
Large print	32	1	0	0	33	0.01%
Section 504 Plan accommodations	184	1	0	0	185	0.04%
IEP accommodations	1,495	1	1	0	1,497	0.35%
Section 504 Plan modifications	39	2	0	0	41	0.01%
IEP modifications	257	2	1	0	260	0.06%
Any accommodation or modification	1,878	4	1	0	1,883	0.44%
No accommodations or modifications	427,842	4	9	0	427,855	99.56%
Students in Special Education	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	17	0	2	0	19	0.05%
Large print	125	1	2	0	128	0.33%
Section 504 Plan accommodations	63	1	2	0	66	0.17%
IEP accommodations	7,766	185	120	0	8,071	20.86%
Section 504 Plan modifications	20	0	0	0	20	0.05%
IEP modifications	1,585	71	83	0	1,739	4.50%
Any accommodation or modification	8,618	208	154	0	8,980	23.21%
No accommodations or modifications	29,485	117	105	0	29,707	76.79%
English-Only Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	9	0	1	0	10	0.00%
Large print	96	1	2	0	99	0.04%
Section 504 Plan accommodations	192	2	1	0	195	0.08%
IEP accommodations	5,837	122	73	0	6,032	2.35%
Section 504 Plan modifications	43	2	0	0	45	0.02%
IEP modifications	1,198	47	39	0	1,284	0.50%
Any accommodation or modification	6,653	138	92	0	6,883	2.68%
No accommodations or modifications	249,726	79	58	0	249,863	97.32%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	6	0	0	0	6	0.02%
Section 504 Plan accommodations	3	0	0	0	3	0.01%
IEP accommodations	223	7	2	0	232	0.70%
Section 504 Plan modifications	3	0	0	0	3	0.01%
IEP modifications	38	1	1	0	40	0.12%
Any accommodation or modification	246	7	2	0	255	0.77%
No accommodations or modifications	33,008	2	4	0	33,014	99.23%

Accommodation Summary for English-Language Arts Grade 2						
English Learner (EL) Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	11	0	1	0	12	0.01%
Large print	52	1	0	0	53	0.03%
Section 504 Plan accommodations	52	0	1	0	53	0.03%
IEP accommodations	3,160	50	41	0	3,251	1.88%
Section 504 Plan modifications	13	0	0	0	13	0.01%
IEP modifications	601	23	42	0	666	0.38%
Any accommodation or modification	3,553	60	56	0	3,669	2.12%
No accommodations or modifications	169,255	39	49	0	169,343	97.88%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	2	0	0	0	2	0.03%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	31	5	4	0	40	0.65%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	4	1	2	0	7	0.11%
Any accommodation or modification	33	5	4	0	42	0.68%
No accommodations or modifications	6,154	0	0	0	6,154	99.32%

Table 6.C.2: Accommodation Summary for English-Language Arts Grade 3

Accommodation Summary for English-Language Arts Grade 3						
All Tested	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	18	1	2	0	21	0.00%
Large print	201	5	3	0	209	0.04%
Section 504 Plan accommodations	325	2	4	0	331	0.07%
IEP accommodations	11,989	122	245	0	12,356	2.59%
Section 504 Plan modifications	47	1	1	0	49	0.01%
IEP modifications	1,963	54	125	0	2,142	0.45%
Any accommodation or modification	13,448	144	307	0	13,899	2.91%
No accommodations or modifications	463,016	91	215	0	463,322	97.09%
Students Not in Special Education	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	36	0	0	0	36	0.01%
Section 504 Plan accommodations	252	0	0	0	252	0.06%
IEP accommodations	1,675	2	5	0	1,682	0.39%
Section 504 Plan modifications	38	0	0	0	38	0.01%
IEP modifications	223	1	2	0	226	0.05%
Any accommodation or modification	2,088	3	6	0	2,097	0.49%
No accommodations or modifications	428,027	1	6	0	428,034	99.51%
Students in Special Education	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	16	1	2	0	19	0.04%
Large print	150	5	3	0	158	0.35%
Section 504 Plan accommodations	72	2	4	0	78	0.17%
IEP accommodations	10,276	119	238	0	10,633	23.32%
Section 504 Plan modifications	9	1	1	0	11	0.02%
IEP modifications	1,729	53	121	0	1,903	4.17%
Any accommodation or modification	11,304	140	297	0	11,741	25.75%
No accommodations or modifications	33,552	89	207	0	33,848	74.25%
English-Only Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	10	0	0	0	10	0.00%
Large print	131	3	1	0	135	0.05%
Section 504 Plan accommodations	254	2	1	0	257	0.10%
IEP accommodations	7,536	70	129	0	7,735	2.97%
Section 504 Plan modifications	36	1	1	0	38	0.01%
IEP modifications	1,236	23	67	0	1,326	0.51%
Any accommodation or modification	8,529	84	161	0	8,774	3.37%
No accommodations or modifications	251,699	58	115	0	251,872	96.63%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.01%
Large print	7	0	0	0	7	0.02%
Section 504 Plan accommodations	7	0	0	0	7	0.02%
IEP accommodations	327	0	9	0	336	1.08%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	36	0	4	0	40	0.13%
Any accommodation or modification	355	0	11	0	366	1.17%
No accommodations or modifications	30,790	1	4	0	30,795	98.83%

Accommodation Summary for English-Language Arts Grade 3						
English Learner (EL) Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	4	1	2	0	7	0.00%
Large print	54	1	2	0	57	0.03%
Section 504 Plan accommodations	59	0	3	0	62	0.04%
IEP accommodations	4,003	46	96	0	4,145	2.47%
Section 504 Plan modifications	10	0	0	0	10	0.01%
IEP modifications	669	28	44	0	741	0.44%
Any accommodation or modification	4,424	52	121	0	4,597	2.74%
No accommodations or modifications	162,816	30	91	0	162,937	97.26%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.01%
Large print	3	0	0	0	3	0.02%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Section 504 Plan accommodations	3	0	0	0	3	0.02%
IEP accommodations	75	2	7	0	84	0.49%
Section 504 Plan modifications	1	0	0	0	1	0.01%
IEP modifications	11	1	6	0	18	0.11%
Any accommodation or modification	83	3	8	0	94	0.55%
No accommodations or modifications	17,003	0	2	0	17,005	99.45%

Table 6.C.3: Accommodation Summary for English-Language Arts Grade 4

Accommodation Summary for English-Language Arts Grade 4						
All Tested	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	19	2	2	0	23	0.00%
Large print	192	0	3	0	195	0.04%
Section 504 Plan accommodations	480	7	6	0	493	0.10%
IEP accommodations	14,855	165	212	0	15,232	3.14%
Section 504 Plan modifications	78	0	1	0	79	0.02%
IEP modifications	2,285	68	134	0	2,487	0.51%
Writing: Braille	15	0	1	0	16	0.00%
Writing: Large print	111	0	0	0	111	0.02%
Writing: Section 504 Plan accommodations	222	1	0	0	223	0.05%
Writing: IEP accommodations	8,226	69	101	0	8,396	1.73%
Writing: Section 504 Plan modifications	50	0	0	0	50	0.01%
Writing: IEP modifications	1,929	37	46	0	2,012	0.42%
Any accommodation or modification	19,242	224	306	0	19,772	4.08%
No accommodations or modifications	464,634	107	147	0	464,888	95.92%
Students Not in Special Education	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.00%
Large print	42	0	0	0	42	0.01%
Section 504 Plan accommodations	341	0	0	0	341	0.08%
IEP accommodations	1,701	2	5	0	1,708	0.39%
Section 504 Plan modifications	49	0	0	0	49	0.01%
IEP modifications	187	0	1	0	188	0.04%
Writing: Braille	3	0	0	0	3	0.00%
Writing: Large print	33	0	0	0	33	0.01%
Writing: Section 504 Plan accommodations	172	0	0	0	172	0.04%
Writing: IEP accommodations	703	0	0	0	703	0.16%
Writing: Section 504 Plan modifications	40	0	0	0	40	0.01%
Writing: IEP modifications	113	0	1	0	114	0.03%
Any accommodation or modification	2,539	2	6	0	2,547	0.59%
No accommodations or modifications	431,779	2	2	0	431,783	99.41%
Students in Special Education	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	17	2	2	0	21	0.04%
Large print	149	0	3	0	152	0.31%
Section 504 Plan accommodations	134	7	6	0	147	0.30%
IEP accommodations	13,121	160	206	0	13,487	27.53%
Section 504 Plan modifications	29	0	1	0	30	0.06%
IEP modifications	2,088	67	132	0	2,287	4.67%
Writing: Braille	12	0	1	0	13	0.03%
Writing: Large print	78	0	0	0	78	0.16%
Writing: Section 504 Plan accommodations	48	1	0	0	49	0.10%
Writing: IEP accommodations	7,511	69	101	0	7,681	15.68%
Writing: Section 504 Plan modifications	10	0	0	0	10	0.02%
Writing: IEP modifications	1,812	37	45	0	1,894	3.87%
Any accommodation or modification	16,655	218	299	0	17,172	35.06%
No accommodations or modifications	31,566	103	143	0	31,812	64.94%

Accommodation Summary for English-Language Arts Grade 4						
English-Only Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. Of Total**
Braille	5	2	0	0	7	0.00%
Large print	136	0	3	0	139	0.05%
Section 504 Plan accommodations	359	2	3	0	364	0.14%
IEP accommodations	9,111	93	116	0	9,320	3.49%
Section 504 Plan modifications	50	0	1	0	51	0.02%
IEP modifications	1,454	37	79	0	1,570	0.59%
Writing: Braille	4	0	0	0	4	0.00%
Writing: Large print	70	0	0	0	70	0.03%
Writing: Section 504 Plan accommodations	176	1	0	0	177	0.07%
Writing: IEP accommodations	5,007	39	47	0	5,093	1.91%
Writing: Section 504 Plan modifications	41	0	0	0	41	0.02%
Writing: IEP modifications	1,146	19	28	0	1,193	0.45%
Any accommodation or modification	11,900	124	165	0	12,189	4.57%
No accommodations or modifications	254,488	54	67	0	254,609	95.43%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	3	0	0	0	3	0.01%
Large print	15	0	0	0	15	0.04%
Section 504 Plan accommodations	20	0	0	0	20	0.05%
IEP accommodations	414	4	8	0	426	1.11%
Section 504 Plan modifications	4	0	0	0	4	0.01%
IEP modifications	39	2	6	0	47	0.12%
Writing: Braille	2	0	0	0	2	0.01%
Writing: Large print	6	0	0	0	6	0.02%
Writing: Section 504 Plan accommodations	8	0	0	0	8	0.02%
Writing: IEP accommodations	233	1	1	0	235	0.61%
Writing: Section 504 Plan modifications	1	0	0	0	1	0.00%
Writing: IEP modifications	42	1	1	0	44	0.11%
Any accommodation or modification	553	5	11	0	569	1.48%
No accommodations or modifications	37,882	4	3	0	37,889	98.52%
English Learner (EL) Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	8	0	2	0	10	0.01%
Large print	38	0	0	0	38	0.03%
Section 504 Plan accommodations	97	5	3	0	105	0.07%
IEP accommodations	5,185	60	77	0	5,322	3.52%
Section 504 Plan modifications	24	0	0	0	24	0.02%
IEP modifications	755	28	42	0	825	0.55%
Writing: Braille	6	0	1	0	7	0.00%
Writing: Large print	34	0	0	0	34	0.02%
Writing: Section 504 Plan accommodations	36	0	0	0	36	0.02%
Writing: IEP accommodations	2,924	26	51	0	3,001	1.98%
Writing: Section 504 Plan modifications	8	0	0	0	8	0.01%
Writing: IEP modifications	723	14	16	0	753	0.50%
Any accommodation or modification	6,601	86	117	0	6,804	4.50%
No accommodations or modifications	144,343	46	76	0	144,465	95.50%

Accommodation Summary for English-Language Arts Grade 4						
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	3	0	0	0	3	0.01%
Large print	3	0	0	0	3	0.01%
Section 504 Plan accommodations	4	0	0	0	4	0.01%
IEP accommodations	106	6	3	0	115	0.42%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	22	0	4	0	26	0.09%
Writing: Braille	3	0	0	0	3	0.01%
Writing: Large print	1	0	0	0	1	0.00%
Writing: Section 504 Plan accommodations	2	0	0	0	2	0.01%
Writing: IEP accommodations	55	3	1	0	59	0.21%
Writing: Section 504 Plan modifications	0	0	0	0	0	0.00%
Writing: IEP modifications	13	3	1	0	17	0.06%
Any accommodation or modification	136	6	5	0	147	0.54%
No accommodations or modifications	27,307	1	0	0	27,308	99.46%

Table 6.C.4: Accommodation Summary for English-Language Arts Grade 5

Accommodation Summary for English-Language Arts Grade 5						
All Tested	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.01%
Large print	211	1	5	0	217	0.04%
Section 504 Plan accommodations	454	1	2	0	457	0.09%
IEP accommodations	15,149	109	165	0	15,423	3.15%
Section 504 Plan modifications	56	1	6	0	63	0.01%
IEP modifications	2,243	57	85	0	2,385	0.49%
Any accommodation or modification	16,801	132	192	0	17,125	3.50%
No accommodations or modifications	471,671	70	188	0	471,929	96.50%
Students Not in Special Education	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	42	0	0	0	42	0.01%
Section 504 Plan accommodations	363	1	0	0	364	0.08%
IEP accommodations	1,535	3	7	0	1,545	0.35%
Section 504 Plan modifications	38	1	0	0	39	0.01%
IEP modifications	185	0	0	0	185	0.04%
Any accommodation or modification	2,029	4	7	0	2,040	0.46%
No accommodations or modifications	436,727	1	6	0	436,734	99.54%
Students in Special Education	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.07%
Large print	169	1	5	0	175	0.36%
Section 504 Plan accommodations	87	0	2	0	89	0.18%
IEP accommodations	13,597	106	157	0	13,860	28.23%
Section 504 Plan modifications	18	0	6	0	24	0.05%
IEP modifications	2,056	57	83	0	2,196	4.47%
Any accommodation or modification	14,749	128	183	0	15,060	30.68%
No accommodations or modifications	33,783	67	180	0	34,030	69.32%
English-Only Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	21	0	0	0	21	0.01%
Large print	129	1	3	0	133	0.05%
Section 504 Plan accommodations	357	1	2	0	360	0.13%
IEP accommodations	9,345	74	94	0	9,513	3.53%
Section 504 Plan modifications	40	1	2	0	43	0.02%
IEP modifications	1,420	31	37	0	1,488	0.55%
Any accommodation or modification	10,461	89	107	0	10,657	3.96%
No accommodations or modifications	258,379	51	89	0	258,519	96.04%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	8	0	0	0	8	0.02%
Section 504 Plan accommodations	14	0	0	0	14	0.04%
IEP accommodations	440	1	7	0	448	1.17%
Section 504 Plan modifications	2	0	0	0	2	0.01%
IEP modifications	41	2	2	0	45	0.12%
Any accommodation or modification	477	2	7	0	486	1.27%
No accommodations or modifications	37,682	1	6	0	37,689	98.73%

Accommodation Summary for English-Language Arts Grade 5						
English Learner (EL) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	8	0	0	0	8	0.01%
Large print	60	0	2	0	62	0.05%
Section 504 Plan accommodations	76	0	0	0	76	0.06%
IEP accommodations	5,158	31	55	0	5,244	3.86%
Section 504 Plan modifications	12	0	3	0	15	0.01%
IEP modifications	745	22	40	0	807	0.59%
Any accommodation or modification	5,620	38	69	0	5,727	4.21%
No accommodations or modifications	130,112	18	91	0	130,221	95.79%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.00%
Large print	14	0	0	0	14	0.03%
Section 504 Plan accommodations	4	0	0	0	4	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
IEP accommodations	153	0	6	0	159	0.35%
Section 504 Plan modifications	2	0	1	0	3	0.01%
IEP modifications	31	0	5	0	36	0.08%
Any accommodation or modification	182	0	6	0	188	0.42%
No accommodations or modifications	44,808	0	2	0	44,810	99.58%

Table 6.C.5: Accommodation Summary for English-Language Arts Grade 6

Accommodation Summary for English-Language Arts Grade 6						
All Tested	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.01%
Large print	199	0	1	0	200	0.04%
Section 504 Plan accommodations	310	0	4	0	314	0.06%
IEP accommodations	12,699	47	184	0	12,930	2.66%
Section 504 Plan modifications	43	1	2	0	46	0.01%
IEP modifications	1,960	12	147	0	2,119	0.44%
Any accommodation or modification	14,044	53	227	0	14,324	2.94%
No accommodations or modifications	471,890	93	237	0	472,220	97.06%
Students Not in Special Education	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	37	0	0	0	37	0.01%
Section 504 Plan accommodations	202	0	0	0	202	0.05%
IEP accommodations	1,210	0	0	0	1,210	0.28%
Section 504 Plan modifications	29	0	0	0	29	0.01%
IEP modifications	129	0	0	0	129	0.03%
Any accommodation or modification	1,520	0	0	0	1,520	0.35%
No accommodations or modifications	437,221	3	14	0	437,238	99.65%
Students in Special Education	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	30	0	0	0	30	0.06%
Large print	160	0	1	0	161	0.35%
Section 504 Plan accommodations	107	0	4	0	111	0.24%
IEP accommodations	11,464	47	183	0	11,694	25.11%
Section 504 Plan modifications	14	1	2	0	17	0.04%
IEP modifications	1,824	12	146	0	1,982	4.26%
Any accommodation or modification	12,494	53	225	0	12,772	27.42%
No accommodations or modifications	33,498	89	221	0	33,808	72.58%
English-Only Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	19	0	0	0	19	0.01%
Large print	140	0	1	0	141	0.05%
Section 504 Plan accommodations	266	0	3	0	269	0.10%
IEP accommodations	7,922	30	90	0	8,042	2.97%
Section 504 Plan modifications	38	1	1	0	40	0.01%
IEP modifications	1,172	10	66	0	1,248	0.46%
Any accommodation or modification	8,834	35	113	0	8,982	3.31%
No accommodations or modifications	262,001	54	135	0	262,190	96.69%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	4	0	0	0	4	0.01%
Large print	12	0	0	0	12	0.03%
Section 504 Plan accommodations	9	0	0	0	9	0.02%
IEP accommodations	318	0	4	0	322	0.84%
Section 504 Plan modifications	1	0	0	0	1	0.00%
IEP modifications	59	0	2	0	61	0.16%
Any accommodation or modification	365	0	4	0	369	0.96%
No accommodations or modifications	37,944	0	4	0	37,948	99.04%

Accommodation Summary for English-Language Arts Grade 6						
English Learner (EL) Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	8	0	0	0	8	0.01%
Large print	40	0	0	0	40	0.03%
Section 504 Plan accommodations	31	0	1	0	32	0.03%
IEP accommodations	4,191	12	83	0	4,286	3.71%
Section 504 Plan modifications	4	0	1	0	5	0.00%
IEP modifications	687	2	75	0	764	0.66%
Any accommodation or modification	4,557	13	102	0	4,672	4.04%
No accommodations or modifications	110,825	38	91	0	110,954	95.96%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	7	0	0	0	7	0.01%
Section 504 Plan accommodations	4	0	0	0	4	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
IEP accommodations	241	3	4	0	248	0.41%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	36	0	4	0	40	0.07%
Any accommodation or modification	256	3	5	0	264	0.44%
No accommodations or modifications	60,412	0	5	0	60,417	99.56%

Table 6.C.6: Accommodation Summary for English-Language Arts Grade 7

Accommodation Summary for English-Language Arts Grade 7						
All Tested	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	32	2	1	0	35	0.01%
Large print	146	1	0	0	147	0.03%
Section 504 Plan accommodations	216	0	8	0	224	0.05%
IEP accommodations	10,296	41	132	0	10,469	2.15%
Section 504 Plan modifications	56	1	0	0	57	0.01%
IEP modifications	1,457	12	133	0	1,602	0.33%
Writing: Braille	25	0	0	0	25	0.01%
Writing: Large print	65	0	0	0	65	0.01%
Writing: Section 504 Plan accommodations	129	0	0	0	129	0.03%
Writing: IEP accommodations	7,716	23	52	0	7,791	1.60%
Writing: Section 504 Plan modifications	45	0	0	0	45	0.01%
Writing: IEP modifications	1,622	1	83	0	1,706	0.35%
Any accommodation or modification	15,329	61	206	0	15,596	3.21%
No accommodations or modifications	470,124	46	111	0	470,281	96.79%
Students Not in Special Education	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	4	0	0	0	4	0.00%
Large print	24	0	0	0	24	0.01%
Section 504 Plan accommodations	138	0	0	0	138	0.03%
IEP accommodations	907	0	29	0	936	0.21%
Section 504 Plan modifications	48	0	0	0	48	0.01%
IEP modifications	132	0	22	0	154	0.04%
Writing: Braille	3	0	0	0	3	0.00%
Writing: Large print	12	0	0	0	12	0.00%
Writing: Section 504 Plan accommodations	103	0	0	0	103	0.02%
Writing: IEP accommodations	561	0	41	0	602	0.14%
Writing: Section 504 Plan modifications	38	0	0	0	38	0.01%
Writing: IEP modifications	99	0	46	0	145	0.03%
Any accommodation or modification	1,585	0	49	0	1,634	0.37%
No accommodations or modifications	438,274	0	4	0	438,278	99.63%
Students in Special Education	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	28	2	1	0	31	0.07%
Large print	122	1	0	0	123	0.28%
Section 504 Plan accommodations	76	0	8	0	84	0.19%
IEP accommodations	9,366	39	103	0	9,508	21.31%
Section 504 Plan modifications	8	1	0	0	9	0.02%
IEP modifications	1,322	10	111	0	1,443	3.23%
Writing: Braille	22	0	0	0	22	0.05%
Writing: Large print	53	0	0	0	53	0.12%
Writing: Section 504 Plan accommodations	25	0	0	0	25	0.06%
Writing: IEP accommodations	7,146	23	11	0	7,180	16.09%
Writing: Section 504 Plan modifications	7	0	0	0	7	0.02%
Writing: IEP modifications	1,518	1	37	0	1,556	3.49%
Any accommodation or modification	13,710	59	157	0	13,926	31.21%
No accommodations or modifications	30,541	46	107	0	30,694	68.79%

Accommodation Summary for English-Language Arts Grade 7						
English-Only Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	18	2	1	0	21	0.01%
Large print	102	0	0	0	102	0.04%
Section 504 Plan accommodations	185	0	1	0	186	0.07%
IEP accommodations	6,534	22	66	0	6,622	2.40%
Section 504 Plan modifications	31	1	0	0	32	0.01%
IEP modifications	896	7	76	0	979	0.35%
Writing: Braille	15	0	0	0	15	0.01%
Writing: Large print	43	0	0	0	43	0.02%
Writing: Section 504 Plan accommodations	113	0	0	0	113	0.04%
Writing: IEP accommodations	4,703	13	38	0	4,754	1.72%
Writing: Section 504 Plan modifications	35	0	0	0	35	0.01%
Writing: IEP modifications	964	0	56	0	1,020	0.37%
Any accommodation or modification	9,672	35	119	0	9,826	3.56%
No accommodations or modifications	266,103	29	44	0	266,176	96.44%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	8	0	0	0	8	0.02%
Section 504 Plan accommodations	9	0	0	0	9	0.02%
IEP accommodations	320	0	6	0	326	0.84%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	31	0	3	0	34	0.09%
Writing: Braille	1	0	0	0	1	0.00%
Writing: Large print	4	0	0	0	4	0.01%
Writing: Section 504 Plan accommodations	5	0	0	0	5	0.01%
Writing: IEP accommodations	257	0	1	0	258	0.67%
Writing: Section 504 Plan modifications	1	0	0	0	1	0.00%
Writing: IEP modifications	44	0	1	0	45	0.12%
Any accommodation or modification	479	0	6	0	485	1.25%
No accommodations or modifications	38,201	0	0	0	38,201	98.75%
English Learner (EL) Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	5	0	0	0	5	0.00%
Large print	25	1	0	0	26	0.02%
Section 504 Plan accommodations	19	0	7	0	26	0.02%
IEP accommodations	3,151	14	53	0	3,218	3.09%
Section 504 Plan modifications	25	0	0	0	25	0.02%
IEP modifications	495	3	47	0	545	0.52%
Writing: Braille	3	0	0	0	3	0.00%
Writing: Large print	15	0	0	0	15	0.01%
Writing: Section 504 Plan accommodations	8	0	0	0	8	0.01%
Writing: IEP accommodations	2,531	9	9	0	2,549	2.45%
Writing: Section 504 Plan modifications	7	0	0	0	7	0.01%
Writing: IEP modifications	584	1	21	0	606	0.58%
Any accommodation or modification	4,752	20	72	0	4,844	4.66%
No accommodations or modifications	99,110	15	67	0	99,192	95.34%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	8	0	0	0	8	0.01%
Large print	11	0	0	0	11	0.02%
Section 504 Plan accommodations	1	0	0	0	1	0.00%

Accommodation Summary for English-Language Arts Grade 7						
IEP accommodations	258	2	6	0	266	0.40%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	30	0	6	0	36	0.05%
Writing: Braille	6	0	0	0	6	0.01%
Writing: Large print	3	0	0	0	3	0.00%
Writing: Section 504 Plan accommodations	3	0	0	0	3	0.00%
Writing: IEP accommodations	212	1	4	0	217	0.33%
Writing: Section 504 Plan modifications	2	0	0	0	2	0.00%
Writing: IEP modifications	24	0	5	0	29	0.04%
Any accommodation or modification	381	3	8	0	392	0.59%
No accommodations or modifications	65,970	0	0	0	65,970	99.41%

Table 6.C.7: Accommodation Summary for English-Language Arts Grade 8

Accommodation Summary for English-Language Arts Grade 8						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	31	1	0	0	32	0.01%
Large print	159	0	0	0	159	0.03%
Section 504 Plan accommodations	232	0	3	0	235	0.05%
IEP accommodations	10,850	19	94	0	10,963	2.23%
Section 504 Plan modifications	13	0	1	0	14	0.00%
IEP modifications	1,469	3	113	0	1,585	0.32%
Any accommodation or modification	11,944	20	130	0	12,094	2.46%
No accommodations or modifications	480,113	16	85	0	480,214	97.54%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.00%
Large print	22	0	0	0	22	0.00%
Section 504 Plan accommodations	159	0	0	0	159	0.04%
IEP accommodations	773	1	18	0	792	0.18%
Section 504 Plan modifications	8	0	0	0	8	0.00%
IEP modifications	102	0	35	0	137	0.03%
Any accommodation or modification	1,017	1	35	0	1,053	0.24%
No accommodations or modifications	444,214	2	2	0	444,218	99.76%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	29	1	0	0	30	0.07%
Large print	137	0	0	0	137	0.30%
Section 504 Plan accommodations	72	0	3	0	75	0.16%
IEP accommodations	10,054	18	76	0	10,148	22.22%
Section 504 Plan modifications	5	0	1	0	6	0.01%
IEP modifications	1,362	3	78	0	1,443	3.16%
Any accommodation or modification	10,900	19	95	0	11,014	24.12%
No accommodations or modifications	34,558	14	82	0	34,654	75.88%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	24	1	0	0	25	0.01%
Large print	107	0	0	0	107	0.04%
Section 504 Plan accommodations	201	0	2	0	203	0.07%
IEP accommodations	6,942	11	61	0	7,014	2.47%
Section 504 Plan modifications	10	0	1	0	11	0.00%
IEP modifications	883	2	78	0	963	0.34%
Any accommodation or modification	7,690	12	88	0	7,790	2.74%
No accommodations or modifications	276,379	11	26	0	276,416	97.26%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	6	0	0	0	6	0.02%
Section 504 Plan accommodations	5	0	0	0	5	0.01%
IEP accommodations	328	1	7	0	336	0.85%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	44	1	9	0	54	0.14%
Any accommodation or modification	360	1	9	0	370	0.94%
No accommodations or modifications	39,049	0	2	0	39,051	99.06%

Accommodation Summary for English-Language Arts Grade 8						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	6	0	0	0	6	0.01%
Large print	33	0	0	0	33	0.03%
Section 504 Plan accommodations	23	0	1	0	24	0.02%
IEP accommodations	3,229	4	24	0	3,257	3.31%
Section 504 Plan modifications	2	0	0	0	2	0.00%
IEP modifications	511	0	26	0	537	0.55%
Any accommodation or modification	3,509	4	31	0	3,544	3.60%
No accommodations or modifications	94,803	5	57	0	94,865	96.40%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	11	0	0	0	11	0.02%
Section 504 Plan accommodations	3	0	0	0	3	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	290	0	2	0	292	0.42%
Section 504 Plan modifications	1	0	0	0	1	0.00%
IEP modifications	25	0	0	0	25	0.04%
Any accommodation or modification	319	0	2	0	321	0.46%
No accommodations or modifications	69,012	0	0	0	69,012	99.54%

Table 6.C.8: Accommodation Summary for English-Language Arts Grade 9

Accommodation Summary for English-Language Arts Grade 9						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	33	0	0	33	0.01%
Large print	0	114	0	0	114	0.02%
Section 504 Plan accommodations	0	163	1	2	166	0.03%
IEP accommodations	0	7,315	24	87	7,426	1.44%
Section 504 Plan modifications	0	12	0	0	12	0.00%
IEP modifications	0	1,201	18	119	1,338	0.26%
Any accommodation or modification	0	8,230	30	136	8,396	1.62%
No accommodations or modifications	0	508,779	30	107	508,916	98.38%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	5	0	0	5	0.00%
Large print	0	17	0	0	17	0.00%
Section 504 Plan accommodations	0	75	0	0	75	0.02%
IEP accommodations	0	531	0	3	534	0.11%
Section 504 Plan modifications	0	9	0	0	9	0.00%
IEP modifications	0	58	0	5	63	0.01%
Any accommodation or modification	0	660	0	5	665	0.14%
No accommodations or modifications	0	468,857	18	9	468,884	99.86%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	28	0	0	28	0.06%
Large print	0	97	0	0	97	0.21%
Section 504 Plan accommodations	0	88	1	2	91	0.20%
IEP accommodations	0	6,774	24	84	6,882	14.88%
Section 504 Plan modifications	0	3	0	0	3	0.01%
IEP modifications	0	1,140	18	114	1,272	2.75%
Any accommodation or modification	0	7,558	30	131	7,719	16.69%
No accommodations or modifications	0	38,412	11	98	38,521	83.31%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	28	0	0	28	0.01%
Large print	0	81	0	0	81	0.03%
Section 504 Plan accommodations	0	108	0	0	108	0.04%
IEP accommodations	0	4,869	11	55	4,935	1.61%
Section 504 Plan modifications	0	9	0	0	9	0.00%
IEP modifications	0	767	4	73	844	0.28%
Any accommodation or modification	0	5,472	12	83	5,567	1.82%
No accommodations or modifications	0	300,587	19	52	300,658	98.18%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	3	0	0	3	0.01%
Section 504 Plan accommodations	0	1	0	0	1	0.00%
IEP accommodations	0	265	3	3	271	0.62%
Section 504 Plan modifications	0	1	0	0	1	0.00%
IEP modifications	0	27	3	5	35	0.08%
Any accommodation or modification	0	291	3	5	299	0.68%
No accommodations or modifications	0	43,535	1	1	43,537	99.32%

Accommodation Summary for English-Language Arts Grade 9						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	3	0	0	3	0.00%
Large print	0	18	0	0	18	0.02%
Section 504 Plan accommodations	0	49	1	1	51	0.05%
IEP accommodations	0	1,931	9	25	1,965	2.01%
Section 504 Plan modifications	0	2	0	0	2	0.00%
IEP modifications	0	377	11	37	425	0.43%
Any accommodation or modification	0	2,187	14	42	2,243	2.29%
No accommodations or modifications	0	95,539	10	54	95,603	97.71%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	2	0	0	2	0.00%
Large print	0	12	0	0	12	0.02%
Section 504 Plan accommodations	0	5	0	1	6	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	223	0	4	227	0.33%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	26	0	4	30	0.04%
Any accommodation or modification	0	252	0	6	258	0.38%
No accommodations or modifications	0	68,146	0	0	68,146	99.62%

Table 6.C.9: Accommodation Summary for English-Language Arts Grade 10

Accommodation Summary for English-Language Arts Grade 10						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	40	1	41	0.01%
Large print	0	0	114	0	114	0.02%
Section 504 Plan accommodations	0	0	142	1	143	0.03%
IEP accommodations	0	0	6,371	4	6,375	1.38%
Section 504 Plan modifications	0	0	13	0	13	0.00%
IEP modifications	0	0	1,118	2	1,120	0.24%
Any accommodation or modification	0	0	7,226	6	7,232	1.56%
No accommodations or modifications	0	0	455,288	23	455,311	98.44%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	7	0	7	0.00%
Large print	0	0	13	0	13	0.00%
Section 504 Plan accommodations	0	0	60	0	60	0.01%
IEP accommodations	0	0	437	0	437	0.10%
Section 504 Plan modifications	0	0	9	0	9	0.00%
IEP modifications	0	0	44	0	44	0.01%
Any accommodation or modification	0	0	544	0	544	0.13%
No accommodations or modifications	0	0	419,468	14	419,482	99.87%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	32	1	33	0.08%
Large print	0	0	100	0	100	0.24%
Section 504 Plan accommodations	0	0	82	1	83	0.20%
IEP accommodations	0	0	5,927	4	5,931	14.43%
Section 504 Plan modifications	0	0	4	0	4	0.01%
IEP modifications	0	0	1,071	2	1,073	2.61%
Any accommodation or modification	0	0	6,673	6	6,679	16.25%
No accommodations or modifications	0	0	34,416	9	34,425	83.75%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	32	0	32	0.01%
Large print	0	0	79	0	79	0.03%
Section 504 Plan accommodations	0	0	103	1	104	0.04%
IEP accommodations	0	0	4,416	4	4,420	1.56%
Section 504 Plan modifications	0	0	10	0	10	0.00%
IEP modifications	0	0	726	2	728	0.26%
Any accommodation or modification	0	0	4,992	5	4,997	1.76%
No accommodations or modifications	0	0	278,984	14	278,998	98.24%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	1	2	0.00%
Large print	0	0	7	0	7	0.02%
Section 504 Plan accommodations	0	0	4	0	4	0.01%
IEP accommodations	0	0	221	0	221	0.55%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	34	0	34	0.08%
Any accommodation or modification	0	0	254	1	255	0.63%
No accommodations or modifications	0	0	40,002	2	40,004	99.37%

Accommodation Summary for English-Language Arts Grade 10						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	5	0	5	0.01%
Large print	0	0	21	0	21	0.03%
Section 504 Plan accommodations	0	0	30	0	30	0.04%
IEP accommodations	0	0	1,503	0	1,503	1.97%
Section 504 Plan modifications	0	0	3	0	3	0.00%
IEP modifications	0	0	326	0	326	0.43%
Any accommodation or modification	0	0	1,720	0	1,720	2.25%
No accommodations or modifications	0	0	74,711	7	74,718	97.75%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	2	0	2	0.00%
Large print	0	0	6	0	6	0.01%
Section 504 Plan accommodations	0	0	4	0	4	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	210	0	210	0.34%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	26	0	26	0.04%
Any accommodation or modification	0	0	237	0	237	0.39%
No accommodations or modifications	0	0	60,687	0	60,687	99.61%

Table 6.C.10: Accommodation Summary for English-Language Arts Grade 11

Accommodation Summary for English-Language Arts Grade 11						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	27	27	0.01%
Large print	0	0	0	87	87	0.02%
Section 504 Plan accommodations	0	0	0	129	129	0.03%
IEP accommodations	0	0	0	5,299	5,299	1.29%
Section 504 Plan modifications	0	0	0	9	9	0.00%
IEP modifications	0	0	0	846	846	0.21%
Any accommodation or modification	0	0	0	5,941	5,941	1.44%
No accommodations or modifications	0	0	0	405,545	405,545	98.56%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	7	7	0.00%
Large print	0	0	0	9	9	0.00%
Section 504 Plan accommodations	0	0	0	58	58	0.02%
IEP accommodations	0	0	0	246	246	0.07%
Section 504 Plan modifications	0	0	0	6	6	0.00%
IEP modifications	0	0	0	32	32	0.01%
Any accommodation or modification	0	0	0	333	333	0.09%
No accommodations or modifications	0	0	0	375,101	375,101	99.91%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	20	20	0.06%
Large print	0	0	0	76	76	0.22%
Section 504 Plan accommodations	0	0	0	71	71	0.20%
IEP accommodations	0	0	0	5,044	5,044	14.43%
Section 504 Plan modifications	0	0	0	3	3	0.01%
IEP modifications	0	0	0	812	812	2.32%
Any accommodation or modification	0	0	0	5,596	5,596	16.01%
No accommodations or modifications	0	0	0	29,351	29,351	83.99%
English Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	20	20	0.01%
Large print	0	0	0	55	55	0.02%
Section 504 Plan accommodations	0	0	0	91	91	0.04%
IEP accommodations	0	0	0	3,751	3,751	1.47%
Section 504 Plan modifications	0	0	0	8	8	0.00%
IEP modifications	0	0	0	543	543	0.21%
Any accommodation or modification	0	0	0	4,199	4,199	1.64%
No accommodations or modifications	0	0	0	251,173	251,173	98.36%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	1	1	0.00%
Large print	0	0	0	5	5	0.01%
Section 504 Plan accommodations	0	0	0	3	3	0.01%
IEP accommodations	0	0	0	206	206	0.54%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	30	30	0.08%
Any accommodation or modification	0	0	0	230	230	0.60%
No accommodations or modifications	0	0	0	38,021	38,021	99.40%

Accommodation Summary for English-Language Arts Grade 11						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	3	3	0.00%
Large print	0	0	0	24	24	0.04%
Section 504 Plan accommodations	0	0	0	29	29	0.05%
IEP accommodations	0	0	0	1,156	1,156	1.92%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	253	253	0.42%
Any accommodation or modification	0	0	0	1,305	1,305	2.16%
No accommodations or modifications	0	0	0	58,981	58,981	97.84%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	2	2	0.00%
Large print	0	0	0	2	2	0.00%
Section 504 Plan accommodations	0	0	0	6	6	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	0	173	173	0.30%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	19	19	0.03%
Any accommodation or modification	0	0	0	192	192	0.34%
No accommodations or modifications	0	0	0	56,644	56,644	99.66%

Table 6.C.11: Accommodation Summary for History-Social Science Grade 8

Accommodation Summary for History-Social Science Grade 8						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	31	1	0	0	32	0.01%
Large print	160	0	0	0	160	0.03%
Section 504 Plan accommodations	215	0	3	0	218	0.04%
IEP accommodations	10,468	17	81	0	10,566	2.15%
Section 504 Plan modifications	10	0	1	0	11	0.00%
IEP modifications	1,234	3	100	0	1,337	0.27%
Any accommodation or modification	11,408	18	117	0	11,543	2.35%
No accommodations or modifications	478,721	14	96	0	478,831	97.65%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.00%
Large print	22	0	0	0	22	0.00%
Section 504 Plan accommodations	146	0	0	0	146	0.03%
IEP accommodations	718	1	17	0	736	0.17%
Section 504 Plan modifications	7	0	0	0	7	0.00%
IEP modifications	95	0	34	0	129	0.03%
Any accommodation or modification	949	1	34	0	984	0.22%
No accommodations or modifications	442,799	2	4	0	442,805	99.78%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	29	1	0	0	30	0.07%
Large print	138	0	0	0	138	0.31%
Section 504 Plan accommodations	68	0	3	0	71	0.16%
IEP accommodations	9,730	16	64	0	9,810	21.69%
Section 504 Plan modifications	3	0	1	0	4	0.01%
IEP modifications	1,135	3	66	0	1,204	2.66%
Any accommodation or modification	10,435	17	83	0	10,535	23.29%
No accommodations or modifications	34,598	12	91	0	34,701	76.71%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	24	1	0	0	25	0.01%
Large print	108	0	0	0	108	0.04%
Section 504 Plan accommodations	187	0	2	0	189	0.07%
IEP accommodations	6,658	11	50	0	6,719	2.38%
Section 504 Plan modifications	7	0	1	0	8	0.00%
IEP modifications	753	2	67	0	822	0.29%
Any accommodation or modification	7,319	12	77	0	7,408	2.62%
No accommodations or modifications	275,443	9	36	0	275,488	97.38%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	6	0	0	0	6	0.02%
Section 504 Plan accommodations	5	0	0	0	5	0.01%
IEP accommodations	316	1	7	0	324	0.82%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	37	1	9	0	47	0.12%
Any accommodation or modification	342	1	9	0	352	0.90%
No accommodations or modifications	38,968	0	2	0	38,970	99.10%

Accommodation Summary for History-Social Science Grade 8						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	6	0	0	0	6	0.01%
Large print	33	0	0	0	33	0.03%
Section 504 Plan accommodations	20	0	1	0	21	0.02%
IEP accommodations	3,159	3	22	0	3,184	3.25%
Section 504 Plan modifications	2	0	0	0	2	0.00%
IEP modifications	418	0	24	0	442	0.45%
Any accommodation or modification	3,384	3	29	0	3,416	3.49%
No accommodations or modifications	94,531	5	58	0	94,594	96.51%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	11	0	0	0	11	0.02%
Section 504 Plan accommodations	3	0	0	0	3	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	276	0	2	0	278	0.40%
Section 504 Plan modifications	1	0	0	0	1	0.00%
IEP modifications	23	0	0	0	23	0.03%
Any accommodation or modification	301	0	2	0	303	0.44%
No accommodations or modifications	68,926	0	0	0	68,926	99.56%

Table 6.C.12: Accommodation Summary for History-Social Science Grade 10

Accommodation Summary for History-Social Science Grade 10						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	38	1	39	0.01%
Large print	0	0	106	0	106	0.02%
Section 504 Plan accommodations	0	0	88	0	88	0.02%
IEP accommodations	0	0	4,398	4	4,402	0.97%
Section 504 Plan modifications	0	0	9	0	9	0.00%
IEP modifications	0	0	517	2	519	0.11%
Any accommodation or modification	0	0	4,921	5	4,926	1.08%
No accommodations or modifications	0	0	449,620	22	449,642	98.92%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	7	0	7	0.00%
Large print	0	0	12	0	12	0.00%
Section 504 Plan accommodations	0	0	45	0	45	0.01%
IEP accommodations	0	0	318	0	318	0.08%
Section 504 Plan modifications	0	0	9	0	9	0.00%
IEP modifications	0	0	23	0	23	0.01%
Any accommodation or modification	0	0	399	0	399	0.10%
No accommodations or modifications	0	0	413,236	13	413,249	99.90%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	30	1	31	0.08%
Large print	0	0	93	0	93	0.23%
Section 504 Plan accommodations	0	0	43	0	43	0.11%
IEP accommodations	0	0	4,073	4	4,077	10.30%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	491	2	493	1.24%
Any accommodation or modification	0	0	4,513	5	4,518	11.41%
No accommodations or modifications	0	0	35,073	9	35,082	88.59%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	31	0	31	0.01%
Large print	0	0	75	0	75	0.03%
Section 504 Plan accommodations	0	0	69	0	69	0.02%
IEP accommodations	0	0	3,045	4	3,049	1.09%
Section 504 Plan modifications	0	0	8	0	8	0.00%
IEP modifications	0	0	350	2	352	0.13%
Any accommodation or modification	0	0	3,410	4	3,414	1.22%
No accommodations or modifications	0	0	275,622	14	275,636	98.78%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	1	2	0.01%
Large print	0	0	6	0	6	0.02%
Section 504 Plan accommodations	0	0	2	0	2	0.01%
IEP accommodations	0	0	144	0	144	0.36%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	16	0	16	0.04%
Any accommodation or modification	0	0	168	1	169	0.42%
No accommodations or modifications	0	0	39,656	2	39,658	99.58%

Accommodation Summary for History-Social Science Grade 10						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	4	0	4	0.01%
Large print	0	0	18	0	18	0.02%
Section 504 Plan accommodations	0	0	15	0	15	0.02%
IEP accommodations	0	0	1,044	0	1,044	1.40%
Section 504 Plan modifications	0	0	1	0	1	0.00%
IEP modifications	0	0	128	0	128	0.17%
Any accommodation or modification	0	0	1,155	0	1,155	1.55%
No accommodations or modifications	0	0	73,341	6	73,347	98.45%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	2	0	2	0.00%
Large print	0	0	6	0	6	0.01%
Section 504 Plan accommodations	0	0	2	0	2	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	151	0	151	0.25%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	19	0	19	0.03%
Any accommodation or modification	0	0	173	0	173	0.29%
No accommodations or modifications	0	0	60,164	0	60,164	99.71%

Table 6.C.13: Accommodation Summary for History-Social Science Grade 11

Accommodation Summary for History-Social Science Grade 11						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	27	27	0.01%
Large print	0	0	0	82	82	0.02%
Section 504 Plan accommodations	0	0	0	80	80	0.02%
IEP accommodations	0	0	0	2,618	2,618	0.65%
Section 504 Plan modifications	0	0	0	7	7	0.00%
IEP modifications	0	0	0	308	308	0.08%
Any accommodation or modification	0	0	0	2,933	2,933	0.73%
No accommodations or modifications	0	0	0	400,039	400,039	99.27%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	7	7	0.00%
Large print	0	0	0	9	9	0.00%
Section 504 Plan accommodations	0	0	0	42	42	0.01%
IEP accommodations	0	0	0	129	129	0.04%
Section 504 Plan modifications	0	0	0	5	5	0.00%
IEP modifications	0	0	0	20	20	0.01%
Any accommodation or modification	0	0	0	196	196	0.05%
No accommodations or modifications	0	0	0	368,280	368,280	99.95%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	20	20	0.06%
Large print	0	0	0	71	71	0.21%
Section 504 Plan accommodations	0	0	0	38	38	0.11%
IEP accommodations	0	0	0	2,485	2,485	7.43%
Section 504 Plan modifications	0	0	0	2	2	0.01%
IEP modifications	0	0	0	287	287	0.86%
Any accommodation or modification	0	0	0	2,732	2,732	8.17%
No accommodations or modifications	0	0	0	30,708	30,708	91.83%
English Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	20	20	0.01%
Large print	0	0	0	53	53	0.02%
Section 504 Plan accommodations	0	0	0	58	58	0.02%
IEP accommodations	0	0	0	1,855	1,855	0.74%
Section 504 Plan modifications	0	0	0	7	7	0.00%
IEP modifications	0	0	0	195	195	0.08%
Any accommodation or modification	0	0	0	2,078	2,078	0.83%
No accommodations or modifications	0	0	0	247,786	247,786	99.17%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	1	1	0.00%
Large print	0	0	0	4	4	0.01%
Section 504 Plan accommodations	0	0	0	2	2	0.01%
IEP accommodations	0	0	0	104	104	0.28%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	10	10	0.03%
Any accommodation or modification	0	0	0	114	114	0.30%
No accommodations or modifications	0	0	0	37,567	37,567	99.70%

Accommodation Summary for History-Social Science Grade 11						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	3	3	0.01%
Large print	0	0	0	22	22	0.04%
Section 504 Plan accommodations	0	0	0	17	17	0.03%
IEP accommodations	0	0	0	558	558	0.95%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	90	90	0.15%
Any accommodation or modification	0	0	0	624	624	1.06%
No accommodations or modifications	0	0	0	57,977	57,977	98.94%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	2	2	0.00%
Large print	0	0	0	2	2	0.00%
Section 504 Plan accommodations	0	0	0	3	3	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	0	91	91	0.16%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	12	12	0.02%
Any accommodation or modification	0	0	0	106	106	0.19%
No accommodations or modifications	0	0	0	56,021	56,021	99.81%

Table 6.C.14: Accommodation Summary for Mathematics Grade 2

Accommodation Summary for Mathematics Grade 2						
All Tested	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	21	0	2	0	23	0.00%
Large print	163	2	2	0	167	0.04%
Section 504 Plan accommodations	236	2	2	0	240	0.05%
IEP accommodations	8,965	190	128	0	9,283	1.98%
Section 504 Plan modifications	53	2	0	0	55	0.01%
IEP modifications	1,429	58	69	0	1,556	0.33%
Any accommodation or modification	9,981	215	158	0	10,354	2.21%
No accommodations or modifications	458,953	139	117	0	459,209	97.79%
Students Not in Special Education	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	3	0	0	0	3	0.00%
Large print	32	1	0	0	33	0.01%
Section 504 Plan accommodations	173	1	0	0	174	0.04%
IEP accommodations	1,414	1	2	0	1,417	0.33%
Section 504 Plan modifications	35	2	0	0	37	0.01%
IEP modifications	197	2	0	0	199	0.05%
Any accommodation or modification	1,740	4	2	0	1,746	0.41%
No accommodations or modifications	427,591	4	8	0	427,603	99.59%
Students in Special Education	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	17	0	2	0	19	0.05%
Large print	124	1	2	0	127	0.33%
Section 504 Plan accommodations	61	1	2	0	64	0.17%
IEP accommodations	7,536	185	125	0	7,846	20.29%
Section 504 Plan modifications	18	0	0	0	18	0.05%
IEP modifications	1,229	56	69	0	1,354	3.50%
Any accommodation or modification	8,217	207	155	0	8,579	22.19%
No accommodations or modifications	29,861	122	106	0	30,089	77.81%
English-Only Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	9	0	1	0	10	0.00%
Large print	95	1	2	0	98	0.04%
Section 504 Plan accommodations	177	2	1	0	180	0.07%
IEP accommodations	5,653	119	79	0	5,851	2.28%
Section 504 Plan modifications	37	2	0	0	39	0.02%
IEP modifications	888	34	31	0	953	0.37%
Any accommodation or modification	6,294	134	94	0	6,522	2.54%
No accommodations or modifications	249,833	85	58	0	249,976	97.46%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	6	0	0	0	6	0.02%
Section 504 Plan accommodations	3	0	0	0	3	0.01%
IEP accommodations	211	9	3	0	223	0.67%
Section 504 Plan modifications	3	0	0	0	3	0.01%
IEP modifications	31	1	0	0	32	0.10%
Any accommodation or modification	230	9	3	0	242	0.73%
No accommodations or modifications	33,012	1	3	0	33,016	99.27%

Accommodation Summary for Mathematics Grade 2						
English Learner (EL) Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	11	0	1	0	12	0.01%
Large print	52	1	0	0	53	0.03%
Section 504 Plan accommodations	54	0	1	0	55	0.03%
IEP accommodations	3,048	51	41	0	3,140	1.82%
Section 504 Plan modifications	13	0	0	0	13	0.01%
IEP modifications	502	20	37	0	559	0.32%
Any accommodation or modification	3,391	60	56	0	3,507	2.03%
No accommodations or modifications	169,269	39	49	0	169,357	97.97%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	2	0	0	0	2	0.03%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Total**	**Pct. of Total**
IEP accommodations	29	5	4	0	38	0.61%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	3	1	1	0	5	0.08%
Any accommodation or modification	31	5	4	0	40	0.65%
No accommodations or modifications	6,155	0	0	0	6,155	99.35%

Table 6.C.15: Accommodation Summary for Mathematics Grade 3

Accommodation Summary for Mathematics Grade 3						
All Tested	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	19	1	1	0	21	0.00%
Large print	201	5	4	0	210	0.04%
Section 504 Plan accommodations	334	2	4	0	340	0.07%
IEP accommodations	12,499	124	252	0	12,875	2.70%
Section 504 Plan modifications	49	1	1	0	51	0.01%
IEP modifications	1,632	52	114	0	1,798	0.38%
Any accommodation or modification	13,766	145	308	0	14,219	2.98%
No accommodations or modifications	462,402	91	216	0	462,709	97.02%
Students Not in Special Education	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	36	0	0	0	36	0.01%
Section 504 Plan accommodations	259	0	0	0	259	0.06%
IEP accommodations	1,720	1	4	0	1,725	0.40%
Section 504 Plan modifications	39	0	0	0	39	0.01%
IEP modifications	202	1	2	0	205	0.05%
Any accommodation or modification	2,127	2	5	0	2,134	0.50%
No accommodations or modifications	427,733	2	7	0	427,742	99.50%
Students in Special Education	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	18	1	1	0	20	0.04%
Large print	150	5	4	0	159	0.35%
Section 504 Plan accommodations	73	2	4	0	79	0.17%
IEP accommodations	10,743	122	246	0	11,111	24.39%
Section 504 Plan modifications	10	1	1	0	12	0.03%
IEP modifications	1,417	51	110	0	1,578	3.46%
Any accommodation or modification	11,585	142	299	0	12,026	26.40%
No accommodations or modifications	33,235	88	207	0	33,530	73.60%
English-Only Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	11	0	0	0	11	0.00%
Large print	131	3	2	0	136	0.05%
Section 504 Plan accommodations	258	2	1	0	261	0.10%
IEP accommodations	7,831	68	131	0	8,030	3.08%
Section 504 Plan modifications	38	1	1	0	40	0.02%
IEP modifications	1,040	24	65	0	1,129	0.43%
Any accommodation or modification	8,703	83	164	0	8,950	3.44%
No accommodations or modifications	251,310	59	112	0	251,481	96.56%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.01%
Large print	7	0	0	0	7	0.02%
Section 504 Plan accommodations	9	0	0	0	9	0.03%
IEP accommodations	335	0	9	0	344	1.10%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	30	0	3	0	33	0.11%
Any accommodation or modification	362	0	10	0	372	1.19%
No accommodations or modifications	30,771	1	5	0	30,777	98.81%

Accommodation Summary for Mathematics Grade 3						
English Learner (EL) Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	4	1	1	0	6	0.00%
Large print	54	1	2	0	57	0.03%
Section 504 Plan accommodations	61	0	3	0	64	0.04%
IEP accommodations	4,212	49	100	0	4,361	2.60%
Section 504 Plan modifications	10	0	0	0	10	0.01%
IEP modifications	544	26	38	0	608	0.36%
Any accommodation or modification	4,562	54	119	0	4,735	2.83%
No accommodations or modifications	162,620	29	95	0	162,744	97.17%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.01%
Large print	3	0	0	0	3	0.02%
Section 504 Plan accommodations	4	0	0	0	4	0.02%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Total**	**Pct. of Total**
IEP accommodations	72	2	8	0	82	0.48%
Section 504 Plan modifications	1	0	0	0	1	0.01%
IEP modifications	8	1	4	0	13	0.08%
Any accommodation or modification	81	3	9	0	93	0.54%
No accommodations or modifications	17,000	0	1	0	17,001	99.46%

Table 6.C.16: Accommodation Summary for Mathematics Grade 4

Accommodation Summary for Mathematics Grade 4						
All Tested	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	18	2	2	0	22	0.00%
Large print	192	0	3	0	195	0.04%
Section 504 Plan accommodations	490	6	6	0	502	0.10%
IEP accommodations	15,535	169	237	0	15,941	3.29%
Section 504 Plan modifications	71	0	1	0	72	0.01%
IEP modifications	2,037	56	128	0	2,221	0.46%
Any accommodation or modification	17,039	206	294	0	17,539	3.62%
No accommodations or modifications	466,523	123	158	0	466,804	96.38%
Students Not in Special Education	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.00%
Large print	41	0	0	0	41	0.01%
Section 504 Plan accommodations	352	0	0	0	352	0.08%
IEP accommodations	1,751	1	5	0	1,757	0.40%
Section 504 Plan modifications	48	0	0	0	48	0.01%
IEP modifications	168	0	1	0	169	0.04%
Any accommodation or modification	2,220	1	5	0	2,226	0.51%
No accommodations or modifications	431,838	2	3	0	431,843	99.49%
Students in Special Education	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	16	2	2	0	20	0.04%
Large print	150	0	3	0	153	0.31%
Section 504 Plan accommodations	133	6	6	0	145	0.30%
IEP accommodations	13,752	165	231	0	14,148	28.91%
Section 504 Plan modifications	23	0	1	0	24	0.05%
IEP modifications	1,860	55	126	0	2,041	4.17%
Any accommodation or modification	14,777	201	288	0	15,266	31.20%
No accommodations or modifications	33,392	119	153	0	33,664	68.80%
English-Only Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	5	2	0	0	7	0.00%
Large print	136	0	3	0	139	0.05%
Section 504 Plan accommodations	370	1	3	0	374	0.14%
IEP accommodations	9,535	90	122	0	9,747	3.66%
Section 504 Plan modifications	48	0	1	0	49	0.02%
IEP modifications	1,327	30	69	0	1,426	0.53%
Any accommodation or modification	10,559	110	157	0	10,826	4.06%
No accommodations or modifications	255,591	67	74	0	255,732	95.94%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	3	0	0	0	3	0.01%
Large print	15	0	0	0	15	0.04%
Section 504 Plan accommodations	21	0	0	0	21	0.05%
IEP accommodations	428	4	8	0	440	1.14%
Section 504 Plan modifications	4	0	0	0	4	0.01%
IEP modifications	34	2	6	0	42	0.11%
Any accommodation or modification	473	5	11	0	489	1.27%
No accommodations or modifications	37,957	4	3	0	37,964	98.73%

Accommodation Summary for Mathematics Grade 4						
English Learner (EL) Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	7	0	2	0	9	0.01%
Large print	38	0	0	0	38	0.03%
Section 504 Plan accommodations	95	5	3	0	103	0.07%
IEP accommodations	5,424	67	96	0	5,587	3.69%
Section 504 Plan modifications	19	0	0	0	19	0.01%
IEP modifications	648	23	46	0	717	0.47%
Any accommodation or modification	5,840	82	113	0	6,035	3.99%
No accommodations or modifications	145,056	49	80	0	145,185	96.01%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
Braille	3	0	0	0	3	0.01%
Large print	3	0	0	0	3	0.01%
Section 504 Plan accommodations	4	0	0	0	4	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Total**	**Pct. of Total**
IEP accommodations	106	6	3	0	115	0.42%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	19	0	4	0	23	0.08%
Any accommodation or modification	120	6	5	0	131	0.48%
No accommodations or modifications	27,307	1	0	0	27,308	99.52%

Table 6.C.17: Accommodation Summary for Mathematics Grade 5

Accommodation Summary for Mathematics Grade 5						
All Tested	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.01%
Large print	210	1	5	0	216	0.04%
Section 504 Plan accommodations	440	1	2	0	443	0.09%
IEP accommodations	15,580	106	164	0	15,850	3.24%
Section 504 Plan modifications	53	1	6	0	60	0.01%
IEP modifications	2,042	50	87	0	2,179	0.45%
Any accommodation or modification	17,133	123	187	0	17,443	3.57%
No accommodations or modifications	471,022	74	194	0	471,290	96.43%
Students Not in Special Education	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	42	0	0	0	42	0.01%
Section 504 Plan accommodations	354	1	0	0	355	0.08%
IEP accommodations	1,543	2	6	0	1,551	0.35%
Section 504 Plan modifications	40	1	0	0	41	0.01%
IEP modifications	172	0	4	0	176	0.04%
Any accommodation or modification	2,022	3	6	0	2,031	0.46%
No accommodations or modifications	436,492	1	7	0	436,500	99.54%
Students in Special Education	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.07%
Large print	168	1	5	0	174	0.36%
Section 504 Plan accommodations	82	0	2	0	84	0.17%
IEP accommodations	14,018	104	157	0	14,279	29.13%
Section 504 Plan modifications	13	0	6	0	19	0.04%
IEP modifications	1,868	50	83	0	2,001	4.08%
Any accommodation or modification	15,086	120	180	0	15,386	31.39%
No accommodations or modifications	33,369	71	184	0	33,624	68.61%
English-Only Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	21	0	0	0	21	0.01%
Large print	128	1	3	0	132	0.05%
Section 504 Plan accommodations	350	1	2	0	353	0.13%
IEP accommodations	9,535	70	97	0	9,702	3.61%
Section 504 Plan modifications	39	1	2	0	42	0.02%
IEP modifications	1,324	30	42	0	1,396	0.52%
Any accommodation or modification	10,629	84	107	0	10,820	4.02%
No accommodations or modifications	257,973	52	90	0	258,115	95.98%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	8	0	0	0	8	0.02%
Section 504 Plan accommodations	14	0	0	0	14	0.04%
IEP accommodations	437	0	5	0	442	1.16%
Section 504 Plan modifications	1	0	0	0	1	0.00%
IEP modifications	36	1	4	0	41	0.11%
Any accommodation or modification	471	1	7	0	479	1.26%
No accommodations or modifications	37,668	1	6	0	37,675	98.74%

Accommodation Summary for Mathematics Grade 5						
English Learner (EL) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	8	0	0	0	8	0.01%
Large print	60	0	2	0	62	0.05%
Section 504 Plan accommodations	68	0	0	0	68	0.05%
IEP accommodations	5,408	33	53	0	5,494	4.04%
Section 504 Plan modifications	11	0	3	0	14	0.01%
IEP modifications	648	16	36	0	700	0.52%
Any accommodation or modification	5,794	35	64	0	5,893	4.34%
No accommodations or modifications	129,894	21	96	0	130,011	95.66%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.00%
Large print	14	0	0	0	14	0.03%
Section 504 Plan accommodations	5	0	0	0	5	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
IEP accommodations	144	0	6	0	150	0.33%
Section 504 Plan modifications	2	0	1	0	3	0.01%
IEP modifications	29	0	4	0	33	0.07%
Any accommodation or modification	175	0	6	0	181	0.40%
No accommodations or modifications	44,800	0	2	0	44,802	99.60%

Table 6.C.18: Accommodation Summary for Mathematics Grade 6

Accommodation Summary for Mathematics Grade 6						
All Tested	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.01%
Large print	199	0	1	0	200	0.04%
Section 504 Plan accommodations	311	0	2	0	313	0.06%
IEP accommodations	12,668	45	190	0	12,903	2.65%
Section 504 Plan modifications	38	1	1	0	40	0.01%
IEP modifications	2,030	13	144	0	2,187	0.45%
Any accommodation or modification	14,046	51	237	0	14,334	2.95%
No accommodations or modifications	471,396	95	230	0	471,721	97.05%
Students Not in Special Education	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	37	0	0	0	37	0.01%
Section 504 Plan accommodations	205	0	0	0	205	0.05%
IEP accommodations	1,189	0	1	0	1,190	0.27%
Section 504 Plan modifications	26	0	0	0	26	0.01%
IEP modifications	130	0	0	0	130	0.03%
Any accommodation or modification	1,496	0	1	0	1,497	0.34%
No accommodations or modifications	436,862	3	13	0	436,878	99.66%
Students in Special Education	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	30	0	0	0	30	0.06%
Large print	160	0	1	0	161	0.35%
Section 504 Plan accommodations	105	0	2	0	107	0.23%
IEP accommodations	11,455	45	188	0	11,688	25.15%
Section 504 Plan modifications	12	1	1	0	14	0.03%
IEP modifications	1,895	13	143	0	2,051	4.41%
Any accommodation or modification	12,521	51	234	0	12,806	27.55%
No accommodations or modifications	33,366	91	215	0	33,672	72.45%
English-Only Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	19	0	0	0	19	0.01%
Large print	140	0	1	0	141	0.05%
Section 504 Plan accommodations	261	0	1	0	262	0.10%
IEP accommodations	7,930	27	96	0	8,053	2.97%
Section 504 Plan modifications	34	1	0	0	35	0.01%
IEP modifications	1,246	10	61	0	1,317	0.49%
Any accommodation or modification	8,873	32	120	0	9,025	3.33%
No accommodations or modifications	261,612	57	129	0	261,798	96.67%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	4	0	0	0	4	0.01%
Large print	12	0	0	0	12	0.03%
Section 504 Plan accommodations	10	0	0	0	10	0.03%
IEP accommodations	315	0	3	0	318	0.83%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	55	0	2	0	57	0.15%
Any accommodation or modification	360	0	4	0	364	0.95%
No accommodations or modifications	37,925	0	4	0	37,929	99.05%

Accommodation Summary for Mathematics Grade 6						
English Learner (EL) Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	8	0	0	0	8	0.01%
Large print	40	0	0	0	40	0.03%
Section 504 Plan accommodations	36	0	1	0	37	0.03%
IEP accommodations	4,168	13	83	0	4,264	3.69%
Section 504 Plan modifications	4	0	1	0	5	0.00%
IEP modifications	686	3	77	0	766	0.66%
Any accommodation or modification	4,535	14	104	0	4,653	4.03%
No accommodations or modifications	110,755	37	91	0	110,883	95.97%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	7	0	0	0	7	0.01%
Section 504 Plan accommodations	4	0	0	0	4	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 6**	**Grade 7**	**Grade 8**	**Grade 9**	**Total**	**Pct. of Total**
IEP accommodations	226	3	5	0	234	0.39%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	39	0	4	0	43	0.07%
Any accommodation or modification	246	3	6	0	255	0.42%
No accommodations or modifications	60,404	0	4	0	60,408	99.58%

Table 6.C.19: Accommodation Summary for Mathematics Grade 7

Accommodation Summary for Mathematics Grade 7						
All Tested	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	32	2	1	0	35	0.01%
Large print	145	1	0	0	146	0.03%
Section 504 Plan accommodations	206	0	8	0	214	0.04%
IEP accommodations	9,976	38	132	0	10,146	2.09%
Section 504 Plan modifications	65	1	0	0	66	0.01%
IEP modifications	1,615	17	141	0	1,773	0.37%
Any accommodation or modification	11,192	43	186	0	11,421	2.35%
No accommodations or modifications	473,627	63	91	0	473,781	97.65%
Students Not in Special Education	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	4	0	0	0	4	0.00%
Large print	24	0	0	0	24	0.01%
Section 504 Plan accommodations	131	0	0	0	131	0.03%
IEP accommodations	876	0	28	0	904	0.21%
Section 504 Plan modifications	55	0	0	0	55	0.01%
IEP modifications	149	0	32	0	181	0.04%
Any accommodation or modification	1,147	0	34	0	1,181	0.27%
No accommodations or modifications	438,217	0	20	0	438,237	99.73%
Students in Special Education	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	28	2	1	0	31	0.07%
Large print	121	1	0	0	122	0.27%
Section 504 Plan accommodations	73	0	8	0	81	0.18%
IEP accommodations	9,079	36	104	0	9,219	20.74%
Section 504 Plan modifications	10	1	0	0	11	0.02%
IEP modifications	1,462	15	109	0	1,586	3.57%
Any accommodation or modification	10,020	41	152	0	10,213	22.98%
No accommodations or modifications	34,100	63	71	0	34,234	77.02%
English-Only Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	18	2	1	0	21	0.01%
Large print	101	0	0	0	101	0.04%
Section 504 Plan accommodations	181	0	1	0	182	0.07%
IEP accommodations	6,331	19	65	0	6,415	2.33%
Section 504 Plan modifications	40	1	0	0	41	0.01%
IEP modifications	1,042	9	79	0	1,130	0.41%
Any accommodation or modification	7,176	24	100	0	7,300	2.65%
No accommodations or modifications	268,155	39	63	0	268,257	97.35%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	8	0	0	0	8	0.02%
Section 504 Plan accommodations	9	0	0	0	9	0.02%
IEP accommodations	310	0	7	0	317	0.82%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	45	0	4	0	49	0.13%
Any accommodation or modification	353	0	7	0	360	0.93%
No accommodations or modifications	38,295	0	0	0	38,295	99.07%

Accommodation Summary for Mathematics Grade 7						
English Learner (EL) Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	5	0	0	0	5	0.00%
Large print	25	1	0	0	26	0.03%
Section 504 Plan accommodations	13	0	7	0	20	0.02%
IEP accommodations	3,056	14	53	0	3,123	3.01%
Section 504 Plan modifications	24	0	0	0	24	0.02%
IEP modifications	485	6	50	0	541	0.52%
Any accommodation or modification	3,341	14	71	0	3,426	3.30%
No accommodations or modifications	100,394	21	27	0	100,442	96.70%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
Braille	8	0	0	0	8	0.01%
Large print	11	0	0	0	11	0.02%
Section 504 Plan accommodations	1	0	0	0	1	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**	**Total**	**Pct. of Total**
IEP accommodations	247	2	6	0	255	0.38%
Section 504 Plan modifications	1	0	0	0	1	0.00%
IEP modifications	34	0	7	0	41	0.06%
Any accommodation or modification	280	2	7	0	289	0.44%
No accommodations or modifications	66,036	1	1	0	66,038	99.56%

Table 6.C.20: Accommodation Summary for General Mathematics

Accommodation Summary for General Mathematics						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	19	12	0	0	31	0.01%
Large print	102	54	0	0	156	0.04%
Section 504 Plan accommodations	179	90	0	0	269	0.07%
IEP accommodations	8,495	4,550	83	28	13,156	3.51%
Section 504 Plan modifications	12	14	1	0	27	0.01%
IEP modifications	1,368	1,579	90	61	3,098	0.83%
Any accommodation or modification	9,454	5,618	118	69	15,259	4.08%
No accommodations or modifications	233,243	125,742	64	96	359,145	95.92%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	1	1	0	0	2	0.00%
Large print	13	7	0	0	20	0.01%
Section 504 Plan accommodations	113	32	0	0	145	0.05%
IEP accommodations	605	372	15	0	992	0.32%
Section 504 Plan modifications	9	9	0	0	18	0.01%
IEP modifications	96	136	30	2	264	0.08%
Any accommodation or modification	796	497	32	2	1,327	0.42%
No accommodations or modifications	207,574	105,956	11	7	313,548	99.58%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	18	11	0	0	29	0.05%
Large print	89	47	0	0	136	0.23%
Section 504 Plan accommodations	65	58	0	0	123	0.21%
IEP accommodations	7,872	4,171	68	28	12,139	20.91%
Section 504 Plan modifications	3	5	1	0	9	0.02%
IEP modifications	1,270	1,440	60	59	2,829	4.87%
Any accommodation or modification	8,638	5,112	86	67	13,903	23.95%
No accommodations or modifications	24,798	19,212	52	89	44,151	76.05%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	14	11	0	0	25	0.01%
Large print	71	43	0	0	114	0.05%
Section 504 Plan accommodations	153	49	0	0	202	0.09%
IEP accommodations	5,646	3,049	52	15	8,762	3.98%
Section 504 Plan modifications	10	13	1	0	24	0.01%
IEP modifications	890	1,088	60	33	2,071	0.94%
Any accommodation or modification	6,321	3,817	78	39	10,255	4.66%
No accommodations or modifications	135,574	74,379	24	66	210,043	95.34%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	5	0	0	0	5	0.02%
Section 504 Plan accommodations	4	0	0	0	4	0.02%
IEP accommodations	247	151	10	1	409	1.70%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	42	40	10	1	93	0.39%
Any accommodation or modification	275	177	12	1	465	1.93%
No accommodations or modifications	15,451	8,149	2	3	23,605	98.07%

Accommodation Summary for General Mathematics						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	5	1	0	0	6	0.01%
Large print	17	11	0	0	28	0.03%
Section 504 Plan accommodations	19	37	0	0	56	0.06%
IEP accommodations	2,321	1,237	19	10	3,587	3.84%
Section 504 Plan modifications	1	1	0	0	2	0.00%
IEP modifications	412	411	20	24	867	0.93%
Any accommodation or modification	2,552	1,478	26	25	4,081	4.37%
No accommodations or modifications	56,586	32,605	38	27	89,256	95.63%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	7	0	0	0	7	0.02%
Section 504 Plan accommodations	3	4	0	0	7	0.02%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	232	98	2	2	334	0.94%
Section 504 Plan modifications	1	0	0	0	1	0.00%
IEP modifications	19	39	0	3	61	0.17%
Any accommodation or modification	252	130	2	4	388	1.09%
No accommodations or modifications	25,044	10,272	0	0	35,316	98.91%

Table 6.C.21: Accommodation Summary for Algebra I

Accommodation Summary for Algebra I						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	10	9	11	11	41	0.01%
Large print	50	44	39	22	155	0.02%
Section 504 Plan accommodations	36	53	57	35	181	0.03%
IEP accommodations	1,734	2,136	2,438	1,856	8,164	1.20%
Section 504 Plan modifications	6	5	7	2	20	0.00%
IEP modifications	151	645	875	686	2,357	0.35%
Any accommodation or modification	1,891	2,629	3,098	2,365	9,983	1.47%
No accommodations or modifications	222,186	245,702	133,069	70,365	671,322	98.53%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	1	1	3	3	8	0.00%
Large print	10	6	6	2	24	0.00%
Section 504 Plan accommodations	33	33	26	7	99	0.02%
IEP accommodations	93	140	143	94	470	0.08%
Section 504 Plan modifications	6	5	5	2	18	0.00%
IEP modifications	10	57	42	34	143	0.02%
Any accommodation or modification	149	222	199	126	696	0.11%
No accommodations or modifications	213,790	230,702	118,859	60,127	623,478	99.89%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	9	8	8	8	33	0.06%
Large print	40	38	33	20	131	0.24%
Section 504 Plan accommodations	3	20	31	28	82	0.15%
IEP accommodations	1,639	1,994	2,292	1,761	7,686	13.90%
Section 504 Plan modifications	0	0	2	0	2	0.00%
IEP modifications	140	587	832	651	2,210	4.00%
Any accommodation or modification	1,739	2,405	2,896	2,237	9,277	16.77%
No accommodations or modifications	8,011	14,345	13,732	9,949	46,037	83.23%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	8	7	8	7	30	0.01%
Large print	30	26	23	15	94	0.02%
Section 504 Plan accommodations	34	39	40	19	132	0.03%
IEP accommodations	906	1,320	1,691	1,286	5,203	1.34%
Section 504 Plan modifications	5	5	5	2	17	0.00%
IEP modifications	95	381	582	442	1,500	0.39%
Any accommodation or modification	1,019	1,652	2,141	1,624	6,436	1.66%
No accommodations or modifications	125,484	138,769	77,377	40,045	381,675	98.34%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	0	1	0.00%
Large print	1	2	5	1	9	0.02%
Section 504 Plan accommodations	1	1	0	0	2	0.00%
IEP accommodations	58	92	94	63	307	0.56%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	3	31	36	34	104	0.19%
Any accommodation or modification	62	113	121	93	389	0.71%
No accommodations or modifications	20,715	19,313	9,428	5,244	54,700	99.29%

Accommodation Summary for Algebra I						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	1	1	2	3	7	0.01%
Large print	15	6	9	6	36	0.03%
Section 504 Plan accommodations	1	12	16	12	41	0.03%
IEP accommodations	736	617	550	431	2,334	1.67%
Section 504 Plan modifications	1	0	2	0	3	0.00%
IEP modifications	48	202	216	180	646	0.46%
Any accommodation or modification	768	727	695	549	2,739	1.96%
No accommodations or modifications	35,569	51,811	31,587	18,270	137,237	98.04%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	1	1	0	0	2	0.00%
Large print	4	10	2	0	16	0.02%
Section 504 Plan accommodations	0	1	1	4	6	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	31	100	95	72	298	0.31%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	4	28	37	29	98	0.10%
Any accommodation or modification	38	128	132	94	392	0.40%
No accommodations or modifications	40,212	35,375	14,336	6,580	96,503	99.60%

Table 6.C.22: Accommodation Summary for Geometry

Accommodation Summary for Geometry						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	8	10	6	24	0.01%
Large print	3	12	30	14	59	0.02%
Section 504 Plan accommodations	1	6	19	27	53	0.02%
IEP accommodations	4	124	684	744	1,556	0.47%
Section 504 Plan modifications	0	0	3	2	5	0.00%
IEP modifications	1	52	290	268	611	0.18%
Any accommodation or modification	8	165	904	935	2,012	0.60%
No accommodations or modifications	13,681	101,709	139,899	75,953	331,242	99.40%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	2	2	0.00%
Large print	0	3	2	1	6	0.00%
Section 504 Plan accommodations	0	5	12	16	33	0.01%
IEP accommodations	1	6	41	27	75	0.02%
Section 504 Plan modifications	0	0	3	2	5	0.00%
IEP modifications	0	3	7	14	24	0.01%
Any accommodation or modification	1	16	60	55	132	0.04%
No accommodations or modifications	13,550	100,309	134,336	71,083	319,278	99.96%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	8	10	4	22	0.17%
Large print	3	9	27	13	52	0.39%
Section 504 Plan accommodations	1	1	7	11	20	0.15%
IEP accommodations	3	118	643	717	1,481	11.19%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	1	49	283	253	586	4.43%
Any accommodation or modification	7	149	843	879	1,878	14.19%
No accommodations or modifications	110	1,308	5,263	4,674	11,355	85.81%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	6	7	5	18	0.01%
Large print	3	9	22	10	44	0.02%
Section 504 Plan accommodations	1	6	14	18	39	0.02%
IEP accommodations	3	73	407	485	968	0.48%
Section 504 Plan modifications	0	0	2	2	4	0.00%
IEP modifications	1	31	166	161	359	0.18%
Any accommodation or modification	7	105	552	619	1,283	0.63%
No accommodations or modifications	8,422	65,096	84,813	43,004	201,335	99.37%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	1	1	0	2	0.01%
Section 504 Plan accommodations	0	0	1	3	4	0.01%
IEP accommodations	0	6	29	39	74	0.23%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	4	15	13	32	0.10%
Any accommodation or modification	0	7	37	47	91	0.28%
No accommodations or modifications	2,184	11,873	12,115	6,282	32,454	99.72%

Accommodation Summary for Geometry						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	2	0	3	0.01%
Large print	0	0	3	4	7	0.02%
Section 504 Plan accommodations	0	0	4	6	10	0.02%
IEP accommodations	0	39	215	193	447	1.07%
Section 504 Plan modifications	0	0	1	0	1	0.00%
IEP modifications	0	17	101	82	200	0.48%
Any accommodation or modification	0	45	274	231	550	1.32%
No accommodations or modifications	237	6,523	19,478	14,854	41,092	98.68%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	1	1	3	0.01%
Large print	0	2	3	0	5	0.01%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	1	6	32	25	64	0.11%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	8	12	20	0.04%
Any accommodation or modification	1	8	39	36	84	0.15%
No accommodations or modifications	2,830	18,136	23,332	11,697	55,995	99.85%

Table 6.C.23: Accommodation Summary for Algebra II

Accommodation Summary for Algebra II						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	5	4	10	0.01%
Large print	0	2	9	8	19	0.01%
Section 504 Plan accommodations	0	1	3	12	16	0.01%
IEP accommodations	2	13	60	213	288	0.15%
Section 504 Plan modifications	0	1	1	0	2	0.00%
IEP modifications	0	4	13	52	69	0.04%
Any accommodation or modification	2	17	83	255	357	0.18%
No accommodations or modifications	490	15,391	85,112	94,703	195,696	99.82%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	3	2	6	0.00%
Large print	0	1	4	3	8	0.00%
Section 504 Plan accommodations	0	1	3	8	12	0.01%
IEP accommodations	0	0	1	8	9	0.00%
Section 504 Plan modifications	0	1	1	0	2	0.00%
IEP modifications	0	0	1	2	3	0.00%
Any accommodation or modification	0	1	12	20	33	0.02%
No accommodations or modifications	473	15,238	84,313	92,813	192,837	99.98%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	2	2	4	0.14%
Large print	0	1	5	4	10	0.34%
Section 504 Plan accommodations	0	0	0	4	4	0.14%
IEP accommodations	2	13	59	205	279	9.53%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	4	12	49	65	2.22%
Any accommodation or modification	2	16	71	233	322	10.99%
No accommodations or modifications	15	120	716	1,756	2,607	89.01%
English Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	5	4	10	0.01%
Large print	0	2	8	4	14	0.01%
Section 504 Plan accommodations	0	1	3	9	13	0.01%
IEP accommodations	1	10	46	161	218	0.17%
Section 504 Plan modifications	0	1	1	0	2	0.00%
IEP modifications	0	4	10	40	54	0.04%
Any accommodation or modification	1	14	67	198	280	0.22%
No accommodations or modifications	307	9,445	56,596	59,857	126,205	99.78%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	6	10	16	0.07%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	1	2	3	0.01%
Any accommodation or modification	0	0	7	12	19	0.09%
No accommodations or modifications	83	2,690	10,345	9,195	22,313	99.91%

Accommodation Summary for Algebra II						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	0.01%
Section 504 Plan accommodations	0	0	0	2	2	0.02%
IEP accommodations	1	2	8	32	43	0.32%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	2	9	11	0.08%
Any accommodation or modification	1	2	8	32	43	0.32%
No accommodations or modifications	13	549	4,044	8,606	13,212	99.68%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	2	3	0.01%
Section 504 Plan accommodations	0	0	0	1	1	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	1	0	9	10	0.03%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	1	1	11	13	0.04%
No accommodations or modifications	87	2,688	14,066	16,964	33,805	99.96%

Table 6.C.24: Accommodation Summary for Summative High School Mathematics

Accommodation Summary for Summative High School Mathematics						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	1	1	3	0.00%
Large print	0	0	0	5	5	0.01%
Section 504 Plan accommodations	0	1	2	9	12	0.01%
IEP accommodations	0	4	9	35	48	0.05%
Section 504 Plan modifications	0	0	0	2	2	0.00%
IEP modifications	0	0	5	13	18	0.02%
Any accommodation or modification	0	4	16	61	81	0.09%
No accommodations or modifications	0	611	12,738	77,419	90,768	99.91%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	1	0	2	0.00%
Large print	0	0	0	1	1	0.00%
Section 504 Plan accommodations	0	1	1	9	11	0.01%
IEP accommodations	0	1	1	3	5	0.01%
Section 504 Plan modifications	0	0	0	2	2	0.00%
IEP modifications	0	0	1	0	1	0.00%
Any accommodation or modification	0	1	4	13	18	0.02%
No accommodations or modifications	0	596	12,632	76,854	90,082	99.98%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	1	1	0.15%
Large print	0	0	0	4	4	0.59%
Section 504 Plan accommodations	0	0	1	0	1	0.15%
IEP accommodations	0	3	8	32	43	6.38%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	4	13	17	2.52%
Any accommodation or modification	0	3	12	48	63	9.35%
No accommodations or modifications	0	14	99	498	611	90.65%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	1	1	3	0.01%
Large print	0	0	0	4	4	0.01%
Section 504 Plan accommodations	0	1	2	8	11	0.02%
IEP accommodations	0	3	7	32	42	0.07%
Section 504 Plan modifications	0	0	0	2	2	0.00%
IEP modifications	0	0	4	10	14	0.02%
Any accommodation or modification	0	3	14	53	70	0.12%
No accommodations or modifications	0	354	7,516	50,824	58,694	99.88%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	0.01%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	1	0	1	2	0.01%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	1	0	2	3	0.02%
No accommodations or modifications	0	112	2,412	11,089	13,613	99.98%

Accommodation Summary for Summative High School Mathematics						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	1	0	1	0.04%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	1	1	2	0.08%
Any accommodation or modification	0	0	1	1	2	0.08%
No accommodations or modifications	0	35	351	2,153	2,539	99.92%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	1	2	3	0.02%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	2	2	0.01%
Any accommodation or modification	0	0	1	5	6	0.04%
No accommodations or modifications	0	110	2,452	13,305	15,867	99.96%

Table 6.C.25: Accommodation Summary for Integrated Mathematics 1

Accommodation Summary for Integrated Mathematics 1						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	1	1	1	3	0.03%
Section 504 Plan accommodations	0	2	2	0	4	0.05%
IEP accommodations	9	58	117	151	335	3.84%
Section 504 Plan modifications	0	0	0	1	1	0.01%
IEP modifications	1	15	36	77	129	1.48%
Any accommodation or modification	9	70	139	201	419	4.80%
No accommodations or modifications	323	2,950	2,198	2,836	8,307	95.20%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	1	0	0	1	0.01%
IEP accommodations	1	5	4	5	15	0.20%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	1	6	7	0.10%
Any accommodation or modification	1	6	4	8	19	0.26%
No accommodations or modifications	314	2,721	1,843	2,427	7,305	99.74%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	1	1	1	3	0.22%
Section 504 Plan accommodations	0	1	2	0	3	0.22%
IEP accommodations	8	53	113	145	319	23.20%
Section 504 Plan modifications	0	0	0	1	1	0.07%
IEP modifications	1	15	35	71	122	8.87%
Any accommodation or modification	8	64	135	192	399	29.02%
No accommodations or modifications	8	223	341	404	976	70.98%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	1	1	0	2	0.04%
Section 504 Plan accommodations	0	2	2	0	4	0.07%
IEP accommodations	4	48	74	106	232	4.13%
Section 504 Plan modifications	0	0	0	1	1	0.02%
IEP modifications	0	4	23	56	83	1.48%
Any accommodation or modification	4	53	90	143	290	5.16%
No accommodations or modifications	278	2,048	1,413	1,593	5,332	94.84%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	0.12%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	1	0	2	5	8	0.99%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	1	3	4	0.49%
Any accommodation or modification	1	0	3	8	12	1.48%
No accommodations or modifications	9	273	174	341	797	98.52%

Accommodation Summary for Integrated Mathematics 1						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	3	7	39	33	82	5.80%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	1	8	12	15	36	2.55%
Any accommodation or modification	3	13	44	42	102	7.21%
No accommodations or modifications	23	329	443	517	1,312	92.79%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	1	1	2	6	10	1.16%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	0	3	4	0.46%
Any accommodation or modification	1	2	2	7	12	1.39%
No accommodations or modifications	13	295	163	382	853	98.61%

Table 6.C.26: Accommodation Summary for Integrated Mathematics 2

Accommodation Summary for Integrated Mathematics 2						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	0	1	0.01%
Section 504 Plan accommodations	0	0	0	1	1	0.01%
IEP accommodations	0	0	19	14	33	0.49%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	5	5	11	0.16%
Any accommodation or modification	0	1	23	18	42	0.63%
No accommodations or modifications	149	1,526	3,226	1,760	6,661	99.37%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.02%
IEP accommodations	0	0	2	0	2	0.03%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	0	0	1	0.02%
Any accommodation or modification	0	1	2	1	4	0.06%
No accommodations or modifications	143	1,511	3,083	1,672	6,409	99.94%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	0	1	0.37%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	16	14	30	11.11%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	5	5	10	3.70%
Any accommodation or modification	0	0	20	17	37	13.70%
No accommodations or modifications	6	10	134	83	233	86.30%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	11	10	21	0.48%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	3	1	5	0.11%
Any accommodation or modification	0	1	14	11	26	0.59%
No accommodations or modifications	107	1,064	2,159	1,025	4,355	99.41%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	0	1	0.14%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	0	2	2	0.28%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	1	1	0.14%
Any accommodation or modification	0	0	1	3	4	0.56%
No accommodations or modifications	20	191	321	177	709	99.44%

Accommodation Summary for Integrated Mathematics 2						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.14%
IEP accommodations	0	0	7	2	9	1.26%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	2	3	5	0.70%
Any accommodation or modification	0	0	7	4	11	1.54%
No accommodations or modifications	1	75	324	304	704	98.46%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	21	193	410	248	872	100.00%

Table 6.C.27: Accommodation Summary for Integrated Mathematics 3

Accommodation Summary for Integrated Mathematics 3						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.03%
IEP accommodations	0	0	0	3	3	0.08%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	1	1	0.03%
Any accommodation or modification	0	0	0	5	5	0.14%
No accommodations or modifications	12	177	1,364	2,001	3,554	99.86%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.03%
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	1	1	0.03%
No accommodations or modifications	12	177	1,344	1,963	3,496	99.97%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	0	3	3	5.17%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	1	1	1.72%
Any accommodation or modification	0	0	0	4	4	6.90%
No accommodations or modifications	0	0	19	35	54	93.10%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.04%
IEP accommodations	0	0	0	3	3	0.13%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	1	1	0.04%
Any accommodation or modification	0	0	0	5	5	0.22%
No accommodations or modifications	4	104	918	1,267	2,293	99.78%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	5	33	176	232	446	100.00%

Accommodation Summary for Integrated Mathematics 3						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	1	5	53	146	205	100.00%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	2	35	216	353	606	100.00%

Table 6.C.28: Accommodation Summary for Science Grade 5

Accommodation Summary for Science Grade 5						
All Tested	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.01%
Large print	209	1	5	0	215	0.04%
Section 504 Plan accommodations	420	1	2	0	423	0.09%
IEP accommodations	14,973	103	153	0	15,229	3.12%
Section 504 Plan modifications	50	1	5	0	56	0.01%
IEP modifications	1,810	50	68	0	1,928	0.40%
Any accommodation or modification	16,365	121	176	0	16,662	3.42%
No accommodations or modifications	470,968	67	198	0	471,233	96.58%
Students Not in Special Education	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	42	0	0	0	42	0.01%
Section 504 Plan accommodations	340	1	0	0	341	0.08%
IEP accommodations	1,482	2	6	0	1,490	0.34%
Section 504 Plan modifications	35	1	0	0	36	0.01%
IEP modifications	150	0	0	0	150	0.03%
Any accommodation or modification	1,933	3	6	0	1,942	0.44%
No accommodations or modifications	435,966	1	7	0	435,974	99.56%
Students in Special Education	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	32	0	0	0	32	0.07%
Large print	167	1	5	0	173	0.35%
Section 504 Plan accommodations	76	0	2	0	78	0.16%
IEP accommodations	13,473	101	146	0	13,720	28.12%
Section 504 Plan modifications	15	0	5	0	20	0.04%
IEP modifications	1,658	50	68	0	1,776	3.64%
Any accommodation or modification	14,409	118	169	0	14,696	30.12%
No accommodations or modifications	33,845	66	188	0	34,099	69.88%
English-Only Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	21	0	0	0	21	0.01%
Large print	127	1	3	0	131	0.05%
Section 504 Plan accommodations	331	1	2	0	334	0.12%
IEP accommodations	9,198	68	89	0	9,355	3.49%
Section 504 Plan modifications	34	1	1	0	36	0.01%
IEP modifications	1,148	28	28	0	1,204	0.45%
Any accommodation or modification	10,158	81	99	0	10,338	3.85%
No accommodations or modifications	257,945	48	95	0	258,088	96.15%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	1	0	0	0	1	0.00%
Large print	8	0	0	0	8	0.02%
Section 504 Plan accommodations	15	0	0	0	15	0.04%
IEP accommodations	424	0	6	0	430	1.13%
Section 504 Plan modifications	1	0	0	0	1	0.00%
IEP modifications	34	1	2	0	37	0.10%
Any accommodation or modification	460	1	7	0	468	1.23%
No accommodations or modifications	37,648	1	6	0	37,655	98.77%

Accommodation Summary for Science Grade 5						
English Learner (EL) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	8	0	0	0	8	0.01%
Large print	60	0	2	0	62	0.05%
Section 504 Plan accommodations	66	0	0	0	66	0.05%
IEP accommodations	5,159	32	49	0	5,240	3.86%
Section 504 Plan modifications	13	0	3	0	16	0.01%
IEP modifications	601	18	33	0	652	0.48%
Any accommodation or modification	5,520	36	61	0	5,617	4.14%
No accommodations or modifications	129,911	18	95	0	130,024	95.86%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
Braille	2	0	0	0	2	0.00%
Large print	14	0	0	0	14	0.03%
Section 504 Plan accommodations	5	0	0	0	5	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**Total**	**Pct. of Total**
IEP accommodations	138	0	6	0	144	0.32%
Section 504 Plan modifications	2	0	1	0	3	0.01%
IEP modifications	23	0	4	0	27	0.06%
Any accommodation or modification	166	0	6	0	172	0.38%
No accommodations or modifications	44,780	0	2	0	44,782	99.62%

Table 6.C.29: Accommodation Summary for Biology

Accommodation Summary for Biology						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	4	12	4	20	0.00%
Large print	0	14	55	10	79	0.02%
Section 504 Plan accommodations	0	32	55	40	127	0.03%
IEP accommodations	0	984	2,131	942	4,057	0.89%
Section 504 Plan modifications	0	1	2	0	3	0.00%
IEP modifications	0	73	169	86	328	0.07%
Any accommodation or modification	0	1,048	2,324	1,019	4,391	0.97%
No accommodations or modifications	0	143,409	220,277	85,428	449,114	99.03%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	3	1	4	0.00%
Large print	0	7	6	2	15	0.00%
Section 504 Plan accommodations	0	16	25	15	56	0.01%
IEP accommodations	0	67	193	44	304	0.07%
Section 504 Plan modifications	0	1	2	0	3	0.00%
IEP modifications	0	2	11	12	25	0.01%
Any accommodation or modification	0	91	231	64	386	0.09%
No accommodations or modifications	0	137,608	206,163	79,440	423,211	99.91%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	4	9	3	16	0.06%
Large print	0	7	48	8	63	0.22%
Section 504 Plan accommodations	0	16	30	25	71	0.25%
IEP accommodations	0	915	1,936	896	3,747	12.96%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	71	157	74	302	1.04%
Any accommodation or modification	0	955	2,090	953	3,998	13.82%
No accommodations or modifications	0	5,509	13,624	5,788	24,921	86.18%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	3	11	3	17	0.01%
Large print	0	9	31	6	46	0.02%
Section 504 Plan accommodations	0	21	40	25	86	0.03%
IEP accommodations	0	609	1,463	658	2,730	0.99%
Section 504 Plan modifications	0	1	2	0	3	0.00%
IEP modifications	0	42	115	55	212	0.08%
Any accommodation or modification	0	652	1,600	715	2,967	1.07%
No accommodations or modifications	0	88,143	135,197	50,806	274,146	98.93%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	1	6	1	8	0.02%
Section 504 Plan accommodations	0	0	0	2	2	0.00%
IEP accommodations	0	37	69	31	137	0.32%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	5	3	8	0.02%
Any accommodation or modification	0	37	79	34	150	0.36%
No accommodations or modifications	0	15,424	17,904	8,766	42,094	99.64%

Accommodation Summary for Biology						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	0	1	2	0.00%
Large print	0	2	12	2	16	0.02%
Section 504 Plan accommodations	0	11	14	13	38	0.06%
IEP accommodations	0	300	514	209	1,023	1.52%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	30	43	25	98	0.15%
Any accommodation or modification	0	319	548	225	1,092	1.63%
No accommodations or modifications	0	16,797	35,049	14,243	66,089	98.37%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	0	1	0.00%
Large print	0	2	5	1	8	0.01%
Section 504 Plan accommodations	0	0	1	0	1	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	34	81	43	158	0.24%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	5	3	9	0.01%
Any accommodation or modification	0	36	92	44	172	0.26%
No accommodations or modifications	0	22,861	31,786	11,479	66,126	99.74%

Table 6.C.30: Accommodation Summary for Chemistry

Accommodation Summary for Chemistry						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	5	3	8	0.00%
Large print	0	0	10	10	20	0.01%
Section 504 Plan accommodations	0	0	4	14	18	0.01%
IEP accommodations	0	5	105	215	325	0.17%
Section 504 Plan modifications	0	0	1	1	2	0.00%
IEP modifications	0	1	4	11	16	0.01%
Any accommodation or modification	0	5	120	242	367	0.19%
No accommodations or modifications	0	2,826	82,537	110,933	196,296	99.81%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	2	2	4	0.00%
Large print	0	0	3	3	6	0.00%
Section 504 Plan accommodations	0	0	4	12	16	0.01%
IEP accommodations	0	1	10	9	20	0.01%
Section 504 Plan modifications	0	0	1	1	2	0.00%
IEP modifications	0	0	1	1	2	0.00%
Any accommodation or modification	0	1	20	25	46	0.02%
No accommodations or modifications	0	2,742	81,108	108,640	192,490	99.98%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	3	1	4	0.10%
Large print	0	0	7	6	13	0.34%
Section 504 Plan accommodations	0	0	0	2	2	0.05%
IEP accommodations	0	4	94	206	304	7.89%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	3	10	14	0.36%
Any accommodation or modification	0	4	99	216	319	8.28%
No accommodations or modifications	0	75	1,335	2,123	3,533	91.72%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	5	3	8	0.01%
Large print	0	0	9	5	14	0.01%
Section 504 Plan accommodations	0	0	4	11	15	0.01%
IEP accommodations	0	3	63	160	226	0.19%
Section 504 Plan modifications	0	0	1	1	2	0.00%
IEP modifications	0	1	4	6	11	0.01%
Any accommodation or modification	0	3	78	179	260	0.21%
No accommodations or modifications	0	1,650	51,640	67,744	121,034	99.79%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	2	2	0.01%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	8	12	20	0.09%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	1	1	0.00%
Any accommodation or modification	0	0	8	14	22	0.10%
No accommodations or modifications	0	345	11,008	11,680	23,033	99.90%

Accommodation Summary for Chemistry						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	2	2	0.01%
Section 504 Plan accommodations	0	0	0	1	1	0.01%
IEP accommodations	0	2	26	30	58	0.38%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	3	3	0.02%
Any accommodation or modification	0	2	26	32	60	0.39%
No accommodations or modifications	0	328	5,022	9,834	15,184	99.61%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	1	2	0.01%
Section 504 Plan accommodations	0	0	0	2	2	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	6	12	18	0.05%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	1	1	0.00%
Any accommodation or modification	0	0	6	16	22	0.06%
No accommodations or modifications	0	503	14,815	21,570	36,888	99.94%

Table 6.C.31: Accommodation Summary for Earth Science

Accommodation Summary for Earth Science						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	7	3	4	14	0.01%
Large print	0	23	8	9	40	0.02%
Section 504 Plan accommodations	0	25	8	10	43	0.02%
IEP accommodations	0	1,871	814	601	3,286	1.89%
Section 504 Plan modifications	0	4	2	1	7	0.00%
IEP modifications	0	229	110	97	436	0.25%
Any accommodation or modification	0	2,041	904	663	3,608	2.08%
No accommodations or modifications	0	113,581	28,637	28,008	170,226	97.92%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	0	3	4	0.00%
Large print	0	3	0	1	4	0.00%
Section 504 Plan accommodations	0	16	6	8	30	0.02%
IEP accommodations	0	165	41	23	229	0.15%
Section 504 Plan modifications	0	3	1	0	4	0.00%
IEP modifications	0	14	0	3	17	0.01%
Any accommodation or modification	0	190	48	36	274	0.18%
No accommodations or modifications	0	104,904	25,061	24,903	154,868	99.82%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	6	3	1	10	0.05%
Large print	0	20	8	7	35	0.19%
Section 504 Plan accommodations	0	9	2	2	13	0.07%
IEP accommodations	0	1,703	772	574	3,049	16.75%
Section 504 Plan modifications	0	1	1	1	3	0.02%
IEP modifications	0	215	110	94	419	2.30%
Any accommodation or modification	0	1,848	855	623	3,326	18.27%
No accommodations or modifications	0	8,393	3,469	3,019	14,881	81.73%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	7	2	4	13	0.01%
Large print	0	17	5	7	29	0.03%
Section 504 Plan accommodations	0	22	7	9	38	0.04%
IEP accommodations	0	1,359	612	436	2,407	2.23%
Section 504 Plan modifications	0	4	1	1	6	0.01%
IEP modifications	0	136	71	58	265	0.25%
Any accommodation or modification	0	1,468	668	481	2,617	2.43%
No accommodations or modifications	0	70,082	17,819	17,216	105,117	97.57%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	1	0	1	0.01%
IEP accommodations	0	77	17	23	117	0.94%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	6	3	2	11	0.09%
Any accommodation or modification	0	82	21	23	126	1.02%
No accommodations or modifications	0	8,305	1,846	2,124	12,275	98.98%

Accommodation Summary for Earth Science						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	0	1	0.00%
Large print	0	4	3	1	8	0.02%
Section 504 Plan accommodations	0	3	0	0	3	0.01%
IEP accommodations	0	392	158	122	672	1.90%
Section 504 Plan modifications	0	0	1	0	1	0.00%
IEP modifications	0	79	29	36	144	0.41%
Any accommodation or modification	0	441	182	137	760	2.15%
No accommodations or modifications	0	22,558	6,505	5,460	34,523	97.85%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	2	0	0	2	0.01%
Section 504 Plan accommodations	0	0	0	1	1	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	35	25	15	75	0.42%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	5	6	1	12	0.07%
Any accommodation or modification	0	41	31	17	89	0.49%
No accommodations or modifications	0	12,401	2,379	3,144	17,924	99.51%

Table 6.C.32: Accommodation Summary for Physics

Accommodation Summary for Physics						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	2	0	1	3	0.01%
Large print	0	5	2	2	9	0.02%
Section 504 Plan accommodations	0	1	2	3	6	0.01%
IEP accommodations	0	107	35	61	203	0.34%
Section 504 Plan modifications	0	0	4	3	7	0.01%
IEP modifications	0	47	5	3	55	0.09%
Any accommodation or modification	0	153	43	69	265	0.45%
No accommodations or modifications	0	17,243	7,400	34,467	59,110	99.55%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	0	0	1	0.00%
Large print	0	2	1	0	3	0.01%
Section 504 Plan accommodations	0	1	2	1	4	0.01%
IEP accommodations	0	9	1	2	12	0.02%
Section 504 Plan modifications	0	0	4	2	6	0.01%
IEP modifications	0	3	0	0	3	0.01%
Any accommodation or modification	0	14	7	5	26	0.05%
No accommodations or modifications	0	16,218	7,100	33,750	57,068	99.95%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	0	1	2	0.09%
Large print	0	3	1	2	6	0.27%
Section 504 Plan accommodations	0	0	0	2	2	0.09%
IEP accommodations	0	97	34	59	190	8.63%
Section 504 Plan modifications	0	0	0	1	1	0.05%
IEP modifications	0	44	5	3	52	2.36%
Any accommodation or modification	0	138	36	64	238	10.81%
No accommodations or modifications	0	1,001	283	680	1,964	89.19%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	0	0	1	0.00%
Large print	0	4	1	1	6	0.02%
Section 504 Plan accommodations	0	1	2	1	4	0.01%
IEP accommodations	0	76	26	38	140	0.38%
Section 504 Plan modifications	0	0	4	2	6	0.02%
IEP modifications	0	33	5	3	41	0.11%
Any accommodation or modification	0	107	33	44	184	0.50%
No accommodations or modifications	0	10,398	4,576	21,942	36,916	99.50%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	1	1	1	3	0.04%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	4	2	1	7	0.10%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	0	0	1	0.01%
Any accommodation or modification	0	6	3	2	11	0.16%
No accommodations or modifications	0	1,685	749	4,629	7,063	99.84%

Accommodation Summary for Physics						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.02%
IEP accommodations	0	24	5	16	45	0.82%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	10	0	0	10	0.18%
Any accommodation or modification	0	33	5	16	54	0.99%
No accommodations or modifications	0	2,305	1,001	2,117	5,423	99.01%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	0	0	1	0.01%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	3	2	6	11	0.11%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	2	0	0	2	0.02%
Any accommodation or modification	0	6	2	6	14	0.14%
No accommodations or modifications	0	2,835	1,063	5,758	9,656	99.86%

Table 6.C.33: Accommodation Summary for Integrated Science 1

Accommodation Summary for Integrated Science 1						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	3	1	2	6	0.01%
Large print	0	26	4	4	34	0.03%
Section 504 Plan accommodations	0	19	6	2	27	0.02%
IEP accommodations	0	594	216	189	999	0.90%
Section 504 Plan modifications	0	1	0	0	1	0.00%
IEP modifications	0	54	18	36	108	0.10%
Any accommodation or modification	0	658	233	220	1,111	1.00%
No accommodations or modifications	0	83,392	15,639	11,201	110,232	99.00%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	1	0	0	1	0.00%
Large print	0	3	0	0	3	0.00%
Section 504 Plan accommodations	0	16	2	2	20	0.02%
IEP accommodations	0	65	10	8	83	0.08%
Section 504 Plan modifications	0	1	0	0	1	0.00%
IEP modifications	0	1	1	0	2	0.00%
Any accommodation or modification	0	85	12	10	107	0.11%
No accommodations or modifications	0	75,966	13,211	9,545	98,722	99.89%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	2	1	2	5	0.04%
Large print	0	23	4	4	31	0.25%
Section 504 Plan accommodations	0	3	4	0	7	0.06%
IEP accommodations	0	529	206	181	916	7.51%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	53	17	36	106	0.87%
Any accommodation or modification	0	573	221	210	1,004	8.23%
No accommodations or modifications	0	7,226	2,352	1,612	11,190	91.77%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	3	1	1	5	0.01%
Large print	0	19	4	4	27	0.05%
Section 504 Plan accommodations	0	15	3	2	20	0.03%
IEP accommodations	0	367	132	129	628	1.06%
Section 504 Plan modifications	0	1	0	0	1	0.00%
IEP modifications	0	42	12	22	76	0.13%
Any accommodation or modification	0	420	145	148	713	1.21%
No accommodations or modifications	0	43,457	8,659	6,270	58,386	98.79%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	1	0	0	1	0.01%
IEP accommodations	0	19	11	5	35	0.38%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	3	0	3	0.03%
Any accommodation or modification	0	20	11	5	36	0.39%
No accommodations or modifications	0	7,216	1,156	882	9,254	99.61%

Accommodation Summary for Integrated Science 1						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	1	1	0.00%
Large print	0	2	0	0	2	0.01%
Section 504 Plan accommodations	0	3	2	0	5	0.02%
IEP accommodations	0	181	67	47	295	1.18%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	9	3	11	23	0.09%
Any accommodation or modification	0	183	70	56	309	1.23%
No accommodations or modifications	0	17,876	4,040	2,827	24,743	98.77%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	5	0	0	5	0.03%
Section 504 Plan accommodations	0	0	1	0	1	0.01%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	24	6	8	38	0.21%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	3	0	3	6	0.03%
Any accommodation or modification	0	32	7	11	50	0.28%
No accommodations or modifications	0	14,721	1,742	1,197	17,660	99.72%

Table 6.C.34: Accommodation Summary for Integrated Science 2

Accommodation Summary for Integrated Science 2						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	1	2	0.01%
Large print	0	0	5	4	9	0.04%
Section 504 Plan accommodations	0	0	3	1	4	0.02%
IEP accommodations	0	132	200	88	420	2.03%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	3	4	3	10	0.05%
Any accommodation or modification	0	134	213	96	443	2.15%
No accommodations or modifications	0	3,847	12,223	4,129	20,199	97.85%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	0	1	0.01%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	2	1	3	0.02%
IEP accommodations	0	4	8	4	16	0.09%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	4	11	5	20	0.11%
No accommodations or modifications	0	3,513	11,029	3,621	18,163	99.89%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	1	1	0.04%
Large print	0	0	5	4	9	0.38%
Section 504 Plan accommodations	0	0	1	0	1	0.04%
IEP accommodations	0	128	192	84	404	16.96%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	3	4	3	10	0.42%
Any accommodation or modification	0	130	202	91	423	17.76%
No accommodations or modifications	0	309	1,161	489	1,959	82.24%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	1	2	0.02%
Large print	0	0	5	3	8	0.07%
Section 504 Plan accommodations	0	0	3	1	4	0.04%
IEP accommodations	0	57	141	49	247	2.18%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	2	2	2	6	0.05%
Any accommodation or modification	0	58	152	55	265	2.34%
No accommodations or modifications	0	1,995	6,785	2,292	11,072	97.66%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	12	13	10	35	1.96%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	12	13	10	35	1.96%
No accommodations or modifications	0	257	1,160	333	1,750	98.04%

Accommodation Summary for Integrated Science 2						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	0.02%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	63	37	25	125	2.87%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	1	2	1	4	0.09%
Any accommodation or modification	0	64	39	27	130	2.99%
No accommodations or modifications	0	1,001	2,293	924	4,218	97.01%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	9	4	13	0.41%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	9	4	13	0.41%
No accommodations or modifications	0	586	1,966	570	3,122	99.59%

Table 6.C.35: Accommodation Summary for Integrated Science 3

Accommodation Summary for Integrated Science 3						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	0	1	0.03%
Large print	0	0	0	1	1	0.03%
Section 504 Plan accommodations	0	0	0	1	1	0.03%
IEP accommodations	0	6	18	8	32	0.94%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	5	0	0	5	0.15%
Any accommodation or modification	0	6	19	10	35	1.02%
No accommodations or modifications	0	467	766	2,147	3,380	98.98%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.03%
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	1	1	0.03%
No accommodations or modifications	0	442	680	2,012	3,134	99.97%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	0	1	0.37%
Large print	0	0	0	1	1	0.37%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	6	17	8	31	11.48%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	5	0	0	5	1.85%
Any accommodation or modification	0	6	18	9	33	12.22%
No accommodations or modifications	0	24	85	128	237	87.78%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	1	1	0.05%
IEP accommodations	0	0	7	7	14	0.76%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	7	8	15	0.82%
No accommodations or modifications	0	324	302	1,191	1,817	99.18%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	1	0	1	0.35%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	1	0	1	0.35%
No accommodations or modifications	0	51	92	142	285	99.65%

Accommodation Summary for Integrated Science 3						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	1	0	1	0.18%
Large print	0	0	0	1	1	0.18%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	5	3	0	8	1.44%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	5	0	0	5	0.90%
Any accommodation or modification	0	5	4	1	10	1.80%
No accommodations or modifications	0	66	159	322	547	98.20%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	1	6	1	8	1.09%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	1	6	1	8	1.09%
No accommodations or modifications	0	24	212	488	724	98.91%

Table 6.C.36: Accommodation Summary for Integrated Science 4

Accommodation Summary for Integrated Science 4						
All Tested	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	0	1	0.10%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	1	2	3	0.29%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	1	2	3	0.29%
No accommodations or modifications	0	157	668	212	1,037	99.71%
Students Not in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	0	146	617	185	948	100.00%
Students in Special Education	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	0	1	1.15%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	1	2	3	3.45%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	1	2	3	3.45%
No accommodations or modifications	0	11	47	26	84	96.55%
English-Only Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	0	1	0.14%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	1	2	3	0.41%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	1	2	3	0.41%
No accommodations or modifications	0	132	441	155	728	99.59%
Initially-Fluent English Proficient (I-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	0	3	29	9	41	100.00%

Accommodation Summary for Integrated Science 4						
English Learner (EL) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	0	19	145	25	189	100.00%
Reclassified-Fluent English Proficient (R-FEP) Students	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
Section 504 Plan accommodations	0	0	0	0	0	0.00%
Reclassified-Fluent English Proficient (R-FEP) Students [continued]	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Total**	**Pct. of Total**
IEP accommodations	0	0	0	0	0	0.00%
Section 504 Plan modifications	0	0	0	0	0	0.00%
IEP modifications	0	0	0	0	0	0.00%
Any accommodation or modification	0	0	0	0	0	0.00%
No accommodations or modifications	0	3	52	21	76	100.00%

Appendix 6.D — DIF Tables

Table 6.D.1: Operational Items Exhibiting Significant Negative DIF

Test	Item Number	Form	Item Seq. No.	Male-Female	White-American Indian	White-Asian	White-Pacific Islander	White-Filipino	White-Combined Asian	White-Hispanic	White-African American	Native English-English Learner
ELANGR02	CSR01524.227	0	8	C-	A	A	A	A	A	A	A	N/A for ELA
ELANGR02	CSR11128.147	0	22	A	A	C-	A	A	B-	A	A	
ELANGR03	CSR12825.065	0	26	A	A	C-	A	C-	C-	A	A	
ELANGR03	CSR13552.326	0	32	C-	A	A	A	A	A	A	A	
ELANGR03	CSL00090.OSA	0	70	A	A	C-	A	C-	C-	A	A	
ELANGR05	CSR10538.OSA	0	69	A	A	C-	B-	C-	C-	B-	A	
ELANGR05	CSL10960.106	0	73	A	A	C-	A	C-	C-	A	A	
ELANGR06	CSR11569.066	0	7	A	A	C-	A	B-	B-	A	A	
ELANGR06	CSL12239.138	0	46	C-	A	B-	A	A	B-	A	A	
ELANGR06	CSL10136.023	0	54	A	A	C-	A	B-	B-	A	A	
ELANGR06	CSL00181.OSA	0	81	A	A	C-	A	A	C-	A	A	
ELANGR09	CSR11032.276	0	2	B-	A	B-	B-	C-	B-	C-	B-	
ELANGR10	CSR11461.189	0	31	A	A	C-	B-	C-	C-	C-	A	
ELANGR10	CSL20735.033	0	68	B-	A	C-	A	C-	C-	A	A	
HISSGR08	CSD00070	0	18	C-	A	A	A	A	A	A	A	A
MATHGR02	CSM10278	0	2	A	A	A	A	C-	B-	A	A	A
MATHGR02	CSM10012	0	43	A	A	C-	C-	C-	C-	C-	B-	C-
MATHGR02	CSM20006	0	52	B-	B-	A	B-	C-	B-	B-	B-	B-
MATHGR02	CSM00980	0	66	C-	A	A	A	A	A	A	A	A
MATHGR03	CSM20844	0	41	C-	A	A	A	A	A	A	A	A
MATHGR03	CSM10615	0	67	A	A	C-	B-	C-	C-	B-	B-	C-
MATHGR04	CSM10747	0	24	C-	A	A	A	A	A	A	A	A
MATHGR06	CSM20683	0	21	B-	A	C-	B-	C-	C-	B-	A	A
MATHGR07	CSM21215	0	40	C-	A	A	A	A	A	A	A	A
MATHGENR	CSM21004	0	11	A	A	A	C-	B-	B-	A	B-	B-
MATHGEOM	CSG20001	0	23	A	A	A	A	A	A	A	A	C-
MATHALG2	CST20162	0	57	A	A	B-	C-	B-	B-	B-	A	C-
MATHALG2	CST00071	0	69	C-	A	A	A	A	A	B-	B-	A
MATHHIGH	CST00071	0	61	C-	A	B-	C-	A	B-	B-	C-	B-
MATHHIGH	CST20271	0	68	A	A	A	A	A	A	A	A	C-
MATHHIGH	CST20218	0	70	A	A	A	A	A	A	A	A	C-
MATHINT2	CSG00524	0	44	A	‡	C-	‡	‡	C-	‡	‡	‡
SCIECHEM	CSC10007	0	59	A	A	A	A	A	A	A	A	C-
SCIEPHYS	CSP20025	0	9	A	A	A	A	A	A	A	A	C-
SCIEINT3	CSB10511	0	7	A	‡	A	‡	‡	A	A	A	C-

‡ Minimum sample size for DIF analysis not met.

Table 6.D.2: Field-test Items Exhibiting Significant Negative DIF

Field-test Items Exhibiting Significant Negative DIF												
Test	**Item Number**	**Form**	**Item Seq. No.**	**Female**	**Black**	**Asian**	**Hispanic**	**Filipino**	**Native American**	**Pacific Islander**	**Multiple Ethnicity**	**English Learner**
ELANGR03	CSR13589.384	2	38	A	A	C-	‡	C-	C-	C-	C-	*N/A for ELA*
ELANGR06	CSL12185.108	5	43	A	A	C-	‡	B-	C-	A	A	
ELANGR07	CSR21001.OSA	4	80	C-	A	B	‡	A	A	A	A	
ELANGR10	CSR20140.018	3	42	C-	‡	C-	‡	C-	C-	C-	B-	
ELANGR10	CSL20787.041	8	42	A	‡	A	‡	C-	A	A	A	
HISSGR08	CSV22899	5	45	A	‡	A	‡	A	A	A	C-	A
HISSGR08	CSV21072	24	46	A	‡	C-	‡	A	B-	A	A	C-
HISSGR08	CSF10147	25	41	A	‡	A	‡	A	A	A	A	C-
HISSGR11	CSV21177	4	31	C-	‡	A	‡	A	A	A	A	A
MATHGR02	CSM20010	1	34	A	A	A	C-	C-	C-	C-	C-	C-
MATHGR02	CSM20020	4	36	A	A	A	A	A	A	A	C-	C-
MATHGR03	CSM20659	2	32	C-	A	A	‡	B	A	A	A	A
MATHGR03	CSM21780	3	34	A	A	A	‡	A	A	A	B-	C-
MATHGR03	CSM10607	5	35	A	A	A	‡	A	A	A	A	C-
MATHGR03	CSM30032	8	32	A	A	B-	‡	C-	C-	C-	B-	C-
MATHGR03	CSM30028	8	33	A	A	A	‡	C-	A	A	B-	A
MATHGR04	CSM30232	14	33	A	A	B-	‡	C-	B-	A	A	B-
MATHGR04	CSM30233	16	34	A	A	A	‡	B-	B-	B-	A	C-
MATHGR05	CSM21278	6	33	C-	‡	B-	‡	A	A	B-	A	A
MATHALG1	CSA10089	2	35	A	C-	A	‡	A	A	A	A	B-
MATHGEOM	CSG10213	10	31	A	‡	A	‡	A	A	A	C-	B-
MATHALG2	CST20192	1	34	C-	‡	A	‡	A	A	B-	A	A
MATHALG2	CSM20161	2	35	C-	‡	B-	‡	A	B-	C-	B-	B-
MATHALG2	CST20252	3	31	C-	‡	A	‡	B-	A	B-	B-	B-
MATHALG2	CST20283	5	32	A	‡	B-	‡	A	A	A	B-	C-
MATHHIGH	CSA20185	2	32	B-	‡	A	‡	C-	A	B-	A	A
SCIEGR05	CSZ20066	1	28	A	‡	A	‡	A	A	A	A	C-
SCIEGR05	CSZ20157	16	30	A	‡	B-	‡	A	A	B-	A	C-
SCIEBIOL	CSB20654	22	29	A	‡	A	‡	C-	B-	A	A	A
SCIEBIOL	CSB20688	29	29	A	‡	A	‡	C-	A	B-	B-	A
SCIECHEM	CSC20107	13	28	C-	‡	A	‡	‡	A	A	B-	B-
SCIECHEM	CSC20460	24	32	A	‡	A	‡	‡	A	A	A	C-
SCIECHEM	CSC20098	28	32	A	‡	C-	‡	‡	C-	A	A	A
SCIECHEM	CSC20944	29	30	A	‡	C-	‡	‡	C-	A	A	A
SCIECHEM	CSC21089	33	29	A	‡	A	‡	‡	A	A	A	C-
SCIECHEM	CSC20453	35	33	C-	‡	A	‡	‡	A	A	B-	A
SCIEEART	CSY10233	37	28	A	‡	‡	‡	‡	C-	C-	B-	A
SCIEPHYS	CSP20831	13	28	C-	‡	B-	‡	‡	A	A	‡	‡
SCIEPHYS	CSP20246	23	28	C-	‡	A	‡	‡	A	A	‡	‡
SCIEINT2	CSP20831	1	33	C-	‡	C-	‡	B-	C-	B-	C-	B-
SCIEGR08	CSZ20694	3	12	A	‡	A	‡	A	A	A	B-	C-
SCIEGR08	CSZ20862	4	12	A	‡	A	‡	A	A	B-	B-	C-
SCIEGR08	CSZ20715	11	14	A	‡	A	‡	A	A	A	B-	C-
SCIEGR08	CSZ30491	18	12	A	‡	A	‡	A	A	B-	B-	C-
SCIEGR08	CSZ30178	18	19	C-	‡	A	‡	B-	A	A	B-	A
SCIELIFE	CSZ30168	12	17	A	‡	A	‡	C-	B-	B-	B-	A
SCIELIFE	CSZ30895	14	15	A	‡	A	‡	A	A	A	A	C-

‡ Minimum sample size for DIF analysis not met.

Table 6.D.3: DIF Classifications for English-Language Arts Grade 2 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	1	2	0	0	0	0	0	0	0	0	0	0	2	3
B-	0	0	0	0	2	3	1	2	2	3	2	3	0	0	0	0		
A	64	98	65	100	54	83	63	97	58	89	57	88	65	100	65	100		
B+	0	0	0	0	5	8	1	2	4	6	5	8	0	0	0	0		
C+	0	0	0	0	3	5	0	0	1	2	1	2	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.4: DIF Classifications for English-Language Arts Grade 3 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	2	3	0	0	2	3	2	3	0	0	0	0	3	5
B-	0	0	0	0	3	5	0	0	4	6	3	5	1	2	0	0		
A	64	98	65	100	55	85	63	97	56	86	55	85	63	97	63	97		
B+	0	0	0	0	3	5	2	3	1	2	3	5	1	2	2	3		
C+	0	0	0	0	2	3	0	0	2	3	2	3	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.5: DIF Classifications for English-Language Arts Grade 4 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	1		
A	75	99	76	100	70	92	72	95	71	93	72	95	76	100	75	99		
B+	0	0	0	0	3	4	3	4	3	4	3	4	0	0	0	0		
C+	1	1	0	0	2	3	0	0	1	1	1	1	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	76	100	76	100	76	100	76	100	76	100	76	100	76	100	76	100		

Table 6.D.6: DIF Classifications for English-Language Arts Grade 5 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	2	3	0	0	2	3	2	3	0	0	0	0	2	3
B-	3	4	0	0	2	3	1	1	0	0	0	0	1	1	0	0		
A	72	96	75	100	66	88	72	96	68	91	69	92	74	99	73	97		
B+	0	0	0	0	2	3	2	3	2	3	1	1	0	0	2	3		
C+	0	0	0	0	3	4	0	0	3	4	3	4	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 6.D.7: DIF Classifications for English-Language Arts Grade 6 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	3	4	0	0	0	0	1	1	0	0	0	0	4	5
B-	2	3	0	0	3	4	1	1	3	4	5	7	1	1	0	0		
A	71	95	75	100	63	84	71	95	67	89	65	87	74	99	75	100		
B+	1	1	0	0	4	5	2	3	2	3	2	3	0	0	0	0		
C+	0	0	0	0	2	3	1	1	3	4	2	3	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 6.D. 8: DIF Classifications for English-Language Arts Grade 7 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	4	5	0	0	3	4	2	3	0	0	0	0		
A	73	96	76	100	69	91	75	99	70	92	71	93	76	100	76	100		
B+	1	1	0	0	1	1	1	1	0	0	1	1	0	0	0	0		
C+	0	0	0	0	2	3	0	0	3	4	2	3	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	76	100	76	100	76	100	76	100	76	100	76	100	76	100	76	100		

Table 6.D.9: DIF Classifications for English-Language Arts Grade 8 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	1	0	0	2	3	0	0	2	3	1	1	1	1	0	0		
A	74	99	75	100	67	89	73	97	69	92	71	95	74	99	75	100		
B+	0	0	0	0	4	5	2	3	2	3	1	1	0	0	0	0		
C+	0	0	0	0	2	3	0	0	2	3	2	3	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 6.D.10: DIF Classifications for English-Language Arts Grade 9 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	1	1
B-	3	4	0	0	2	3	1	1	2	3	2	3	0	0	1	1		
A	72	96	75	100	69	92	73	97	68	91	70	93	74	99	74	99		
B+	0	0	0	0	2	3	1	1	1	1	1	1	0	0	0	0		
C+	0	0	0	0	2	3	0	0	3	4	2	3	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 6.D.11: DIF Classifications for English-Language Arts Grade 10 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	2	3	0	0	2	3	2	3	1	1	0	0	2	3
B-	2	3	0	0	1	1	1	1	0	0	0	0	0	0	0	0		
A	72	96	75	100	68	91	73	97	69	92	70	93	73	97	75	100		
B+	1	1	0	0	2	3	1	1	2	3	2	3	1	1	0	0		
C+	0	0	0	0	2	3	0	0	2	3	1	1	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 6.D.12: DIF Classifications for English-Language Arts Grade 11 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	0	0	0	0	1	1	0	0	1	1	0	0		
A	71	95	75	100	72	96	74	99	73	97	74	99	74	99	75	100		
B+	2	3	0	0	3	4	1	1	1	1	1	1	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 6.D.13: DIF Classifications for History-Social Science Grade 8 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
B-	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1		
A	72	96	75	100	74	99	75	100	75	100	75	100	75	100	74	99	74	99		
B+	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 6.D.14: DIF Classifications for History-Social Science Grade 10 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	59	98	60	100	59	98	60	100	59	98	59	98	60	100	60	100	60	100		
B+	1	2	0	0	1	2	0	0	1	2	1	2	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.15: DIF Classifications for History-Social Science Grade 11 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	1	2	0	0	0	0	1	2	0	0	0	0	2	3		
A	59	98	59	98	58	97	60	100	59	98	58	97	60	100	59	98	58	97		
B+	1	2	1	2	1	2	0	0	1	2	1	2	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.16: DIF Classifications for Mathematics Grade 2 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	1	2	1	2	3	5	1	2	1	2	0	0	1	2	4	6
B-	2	3	1	2	0	0	1	2	1	2	3	5	1	2	3	5	1	2		
A	62	95	64	98	63	97	63	97	59	91	60	92	63	97	62	95	63	97		
B+	0	0	0	0	1	2	0	0	1	2	1	2	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.17: DIF Classifications for Mathematics Grade 3 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	1	2	0	0	1	2	1	2	0	0	0	0	1	2	2	3
B-	0	0	0	0	0	0	1	2	2	3	1	2	2	3	2	3	2	3		
A	61	94	65	100	64	98	64	98	62	95	63	97	63	97	63	97	61	94		
B+	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2		
C+	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.18: DIF Classifications for Mathematics Grade 4 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2		
A	64	98	65	100	65	100	65	100	65	100	65	100	65	100	65	100	64	98		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.19: DIF Classifications for Mathematics Grade 5 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	62	95	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.20: DIF Classifications for Mathematics Grade 6 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	2	0	0	1	2	1	2	0	0	0	0	0	0	1	2
B-	3	5	0	0	1	2	1	2	0	0	0	0	1	2	0	0	3	5		
A	59	91	65	100	60	92	63	97	61	94	62	95	64	98	65	100	62	95		
B+	3	5	0	0	3	5	1	2	3	5	2	3	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.21: DIF Classifications for Mathematics Grade 7 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
B-	2	3	0	0	1	2	0	0	1	2	1	2	0	0	1	2	0	0		
A	62	95	65	100	64	98	65	100	64	98	64	98	65	100	64	98	65	100		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.22: DIF Classifications for General Mathematics Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	2
B-	2	3	0	0	1	2	1	2	2	3	1	2	0	0	1	2	1	2		
A	62	95	65	100	63	97	63	97	62	95	64	98	65	100	64	98	64	98		
B+	1	2	0	0	1	2	0	0	1	2	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.23: DIF Classifications for Algebra I Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	2	3	0	0	1	2	1	2	1	2	1	2	4	6		
A	62	95	65	100	63	97	65	100	64	98	64	98	64	98	64	98	61	94		
B+	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.24: DIF Classifications for Geometry Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
B-	0	0	0	0	0	0	2	3	1	2	1	2	0	0	1	2	2	3		
A	64	100	64	100	64	100	61	95	63	98	63	98	64	100	63	98	61	95		
B+	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100		

Table 6.D.25: DIF Classifications for Algebra II Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1	2	2	3
B-	2	3	1	2	2	3	3	5	1	2	2	3	3	5	1	2	2	3		
A	61	95	63	98	60	94	58	91	63	98	61	95	61	95	63	98	59	92		
B+	0	0	0	0	2	3	2	3	0	0	1	2	0	0	0	0	1	2		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100		

Table 6.D.26: DIF Classifications for Summative High School Mathematics Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	0	0	1	2	0	0	0	0	0	0	1	2	2	3	3	5
B-	2	3	2	3	2	3	3	5	1	2	3	5	2	3	0	0	7	11		
A	60	92	62	95	63	97	58	89	64	98	62	95	62	95	64	98	51	78		
B+	2	3	1	2	0	0	3	5	0	0	0	0	1	2	0	0	3	5		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.27: DIF Classifications for Integrated Mathematics 1 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100		
TOTAL	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100		

Table 6.D.28: DIF Classifications for Integrated Mathematics 2 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	2	0	0	0	0	1	2	0	0	0	0	0	0	1	2
B-	5	8	0	0	4	6	0	0	0	0	7	11	0	0	0	0	0	0		
A	59	92	0	0	54	84	0	0	0	0	49	77	0	0	0	0	0	0		
B+	0	0	0	0	2	3	0	0	0	0	4	6	0	0	0	0	0	0		
C+	0	0	0	0	3	5	0	0	0	0	3	5	0	0	0	0	0	0		
Small N	0	0	64	100	0	0	64	100	64	100	0	0	64	100	64	100	64	100		
TOTAL	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100		

Table 6.D.29: DIF Classifications for Integrated Mathematics 3 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 6.D.30: DIF Classifications for Science Grade 5 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	1	2	0	0	1	2	1	2	0	0	1	2	0	0		
A	60	100	60	100	59	98	60	100	59	98	59	98	60	100	59	98	60	100		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.31: DIF Classifications for Biology Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	3	5	0	0	1	2	2	3	0	0	0	0	1	2		
A	60	100	60	100	57	95	60	100	59	98	58	97	60	100	60	100	59	98		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.32: DIF Classifications for Chemistry Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
B-	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	2	3		
A	60	100	60	100	59	98	60	100	60	100	60	100	60	100	60	100	57	95		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.33: DIF Classifications for Earth Science Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	2	0	0	1	2	0	0	1	2	1	2	0	0	0	0	0	0		
A	59	98	60	100	59	98	60	100	59	98	59	98	60	100	60	100	60	100		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.34: DIF Classifications for Physics Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
B-	3	5	1	2	0	0	3	5	1	2	0	0	0	0	1	2	3	5		
A	54	90	59	98	57	95	55	92	57	95	58	97	60	100	59	98	55	92		
B+	2	3	0	0	3	5	2	3	2	3	2	3	0	0	0	0	1	2		
C+	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.35: DIF Classifications for Integrated Science 1 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	2	0	0	0	0	1	2	1	2	0	0	0	0	0	0	0	0		
A	59	98	60	100	60	100	59	98	58	97	60	100	60	100	60	100	60	100		
B+	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.36: DIF Classifications for Integrated Science 2 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	3	5	0	0	3	5	2	3	0	0	0	0	1	2		
A	57	95	0	0	55	92	0	0	57	95	58	97	60	100	59	98	59	98		
B+	1	2	0	0	2	3	0	0	0	0	0	0	0	0	1	2	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	60	100	0	0	60	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.37: DIF Classifications for Integrated Science 3 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
B-	0	0	0	0	1	2	0	0	0	0	1	2	0	0	3	5	0	0		
A	60	100	0	0	59	98	0	0	0	0	59	98	60	100	56	93	59	98		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	60	100	0	0	60	100	60	100	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.38: DIF Classifications for Integrated Science 4 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	3	5	0	0	0	0	0	0	0	0	0	0	1	2	0	0	7	12		
A	53	88	0	0	0	0	0	0	0	0	0	0	55	92	0	0	50	83		
B+	4	7	0	0	0	0	0	0	0	0	0	0	4	7	0	0	3	5		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	60	100	60	100	60	100	60	100	60	100	0	0	60	100	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.39: DIF Classifications for English-Language Arts Grade 2 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	2	1	2	0	0	5	10	2	4	0	0	0	0	0	0	0	0		
A	47	98	47	98	43	90	28	58	40	83	45	94	48	100	48	100	0	0		
B+	0	0	0	0	3	6	3	6	6	13	3	6	0	0	0	0	0	0		
C+	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	12	25	0	0	0	0	0	0	0	0	48	100		
TOTAL	48	100	48	100	48	100	48	100	48	100	48	100	48	100	48	100	48	100		

Table 6.D.40: DIF Classifications for English-Language Arts Grade 3 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	4	0	0	1	4	1	4	1	4	1	4	0	0	1	4
B-	0	0	0	0	2	8	0	0	1	4	1	4	0	0	2	8	0	0		
A	24	100	23	96	20	83	6	25	22	92	22	92	23	96	21	88	0	0		
B+	0	0	1	4	1	4	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	18	75	0	0	0	0	0	0	0	0	24	100		
TOTAL	24	100	24	100	24	100	24	100	24	100	24	100	24	100	24	100	24	100		

Table 6.D.41: DIF Classifications for English-Language Arts Grade 4 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	1	2	2	3	0	0	1	2	1	2	0	0	0	0	0	0		
A	60	100	52	87	49	82	6	10	53	88	52	87	60	100	60	100	0	0		
B+	0	0	1	2	6	10	0	0	3	5	5	8	0	0	0	0	0	0		
C+	0	0	0	0	3	5	0	0	3	5	2	3	0	0	0	0	0	0		
Small N	0	0	6	10	0	0	54	90	0	0	0	0	0	0	0	0	60	100		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.42: DIF Classifications for English-Language Arts Grade 5 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	2	6	0	0	6	17	2	6	1	3	0	0	0	0		
A	36	100	6	17	33	92	6	17	28	78	33	92	35	97	36	100	0	0		
B+	0	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	0		
C+	0	0	0	0	1	3	0	0	0	0	1	3	0	0	0	0	0	0		
Small N	0	0	30	83	0	0	30	83	0	0	0	0	0	0	0	0	36	100		
TOTAL	36	100	36	100	36	100	36	100	36	100	36	100	36	100	36	100	36	100		

Table 6.D.43: DIF Classifications for English-Language Arts Grade 6 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	1
B-	0	0	4	6	0	0	1	1	3	4	0	0	0	0	0	0	0	0		
A	71	100	57	80	62	87	6	8	61	86	65	92	71	100	71	100	0	0		
B+	0	0	4	6	8	11	0	0	5	7	3	4	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	2	3	2	3	0	0	0	0	0	0		
Small N	0	0	6	8	0	0	64	90	0	0	0	0	0	0	0	0	71	100		
TOTAL	71	100	71	100	71	100	71	100	71	100	71	100	71	100	71	100	71	100		

Table 6.D.44: DIF Classifications for English-Language Arts Grade 7 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
B-	2	2	2	2	1	1	0	0	7	7	1	1	1	1	0	0	0	0		
A	103	97	85	80	95	90	8	8	91	86	97	92	105	99	106	100	0	0		
B+	0	0	1	1	8	8	0	0	7	7	7	7	0	0	0	0	0	0		
C+	0	0	0	0	2	2	0	0	1	1	1	1	0	0	0	0	0	0		
Small N	0	0	18	17	0	0	98	92	0	0	0	0	0	0	0	0	106	100		
TOTAL	106	100	106	100	106	100	106	100	106	100	106	100	106	100	106	100	106	100		

Table 6.D.45: DIF Classifications for English-Language Arts Grade 8 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	12	100	6	50	12	100	6	50	12	100	12	100	12	100	12	100	0	0		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	6	50	0	0	6	50	0	0	0	0	0	0	0	0	12	100		
TOTAL	12	100	12	100	12	100	12	100	12	100	12	100	12	100	12	100	12	100		

Table 6.D.46: DIF Classifications for English-Language Arts Grade 9 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	2	6	1	3	0	0	0	0	0	0	0	0		
A	36	100	36	100	36	100	34	94	34	94	36	100	36	100	36	100	0	0		
B+	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	100		
TOTAL	36	100	36	100	36	100	36	100	36	100	36	100	36	100	36	100	36	100		

Table 6.D.47: DIF Classifications for English-Language Arts Grade 10 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	2	2	1	1	1	1	0	0	0	0	2	2
B-	1	1	0	0	0	0	0	0	3	4	1	1	0	0	4	5	0	0		
A	81	96	6	7	75	89	6	7	75	89	77	92	83	99	80	95	0	0		
B+	1	1	0	0	7	8	0	0	4	5	5	6	0	0	0	0	0	0		
C+	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	78	93	0	0	78	93	0	0	0	0	0	0	0	0	84	100		
TOTAL	84	100	84	100	84	100	84	100	84	100	84	100	84	100	84	100	84	100		

Table 6.D.48: DIF Classifications for English-Language Arts Grade 11 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	2	2	0	0	0	0	1	1	0	0		
A	104	100	10	10	102	98	6	6	98	94	103	99	104	100	103	99	0	0		
B+	0	0	0	0	1	1	0	0	4	4	0	0	0	0	0	0	0	0		
C+	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0		
Small N	0	0	94	90	0	0	98	94	0	0	0	0	0	0	0	0	104	100		
TOTAL	104	100	104	100	104	100	104	100	104	100	104	100	104	100	104	100	104	100		

Table 6.D.49: DIF Classifications for History-Social Science Grade 8 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	1	3	1
B-	1	0	0	0	4	2	0	0	8	3	2	1	1	0	6	3	6	3		
A	239	100	0	0	228	95	0	0	214	89	235	98	239	100	233	97	231	96		
B+	0	0	0	0	7	3	0	0	5	2	3	1	0	0	0	0	1	0		
C+	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0		
Small N	0	0	240	100	0	0	240	100	12	5	0	0	0	0	0	0	0	0		
TOTAL	240	100	240	100	240	100	240	100	240	100	240	100	240	100	240	100	240	100		

Table 6.D.50: DIF Classifications for History-Social Science Grade 10 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	6	3	0	0	1	0	0	0	7	3	1	0	3	1	3	1	4	2		
A	204	97	0	0	205	98	0	0	198	94	207	99	207	99	207	99	206	98		
B+	0	0	0	0	2	1	0	0	4	2	2	1	0	0	0	0	0	0		
C+	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0		
Small N	0	0	210	100	0	0	210	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100		

Table 6.D.51: DIF Classifications for History-Social Science Grade 11 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
B-	4	2	0	0	2	1	0	0	6	3	1	1	1	1	2	1	7	4		
A	175	97	0	0	178	99	0	0	172	96	179	99	179	99	176	98	172	96		
B+	0	0	0	0	0	0	0	0	2	1	0	0	0	0	2	1	1	1		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	180	100	0	0	180	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100		

Table 6.D.52: DIF Classifications for Mathematics Grade 2 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	1	3	1	3	1	3	1	3	2	7	2	7	2	7
B-	0	0	1	3	0	0	1	3	1	3	0	0	0	0	1	3	0	0		
A	29	97	29	97	30	100	27	90	28	93	29	97	29	97	27	90	28	93		
B+	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100		

Table 6.D.53: DIF Classifications for Mathematics Grade 3 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	2	3	1	1	1	1	0	0	3	4	5	7
B-	2	3	5	7	1	1	0	0	2	3	0	0	2	3	3	4	10	14		
A	68	94	67	93	71	99	0	0	66	92	71	99	69	96	68	94	59	82		
B+	1	1	0	0	0	0	0	0	2	3	0	0	0	0	1	1	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	72	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	72	100	72	100	72	100	72	100	72	100	72	100	72	100	72	100	72	100		

Table 6.D.54: DIF Classifications for Mathematics Grade 4 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	2	2
B-	6	5	4	3	2	2	0	0	9	8	3	3	3	3	4	3	4	3		
A	114	95	86	72	112	93	0	0	108	90	116	97	117	98	116	97	115	96		
B+	0	0	0	0	6	5	0	0	2	2	1	1	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	30	25	0	0	120	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100		

Table 6.D.55: DIF Classifications for Mathematics Grade 5 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
B-	2	2	0	0	1	1	0	0	2	2	0	0	2	2	5	6	1	1		
A	87	97	6	7	84	93	6	7	88	98	87	97	88	98	85	94	89	99		
B+	0	0	0	0	5	6	0	0	0	0	3	3	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	84	93	0	0	84	93	0	0	0	0	0	0	0	0	0	0		
TOTAL	90	100	90	100	90	100	90	100	90	100	90	100	90	100	90	100	90	100		

Table 6.D.56: DIF Classifications for Mathematics Grade 6 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	4	3	3	3	2	2	0	0	4	3	2	2	1	1	1	1	0	0		
A	114	97	79	67	106	90	0	0	109	92	113	96	117	99	117	99	118	100		
B+	0	0	1	1	8	7	0	0	5	4	3	3	0	0	0	0	0	0		
C+	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	35	30	0	0	118	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	118	100	118	100	118	100	118	100	118	100	118	100	118	100	118	100	118	100		

Table 6.D.57: DIF Classifications for Mathematics Grade 7 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	1	4	3	4	3	0	0	6	5	2	2	2	2	2	2	1	1		
A	119	99	103	86	112	93	0	0	111	93	117	98	118	98	118	98	119	99		
B+	0	0	1	1	4	3	0	0	3	3	1	1	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	12	10	0	0	120	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100		

Table 6.D.58: DIF Classifications for General Mathematics Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D.59: DIF Classifications for Algebra I Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
B-	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3	6		
A	48	100	15	31	48	100	0	0	48	100	48	100	48	100	48	100	45	94		
B+	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	30	63	0	0	48	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	48	100	48	100	48	100	48	100	48	100	48	100	48	100	48	100	48	100		

Table 6.D.60: DIF Classifications for Geometry Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	2
B-	1	2	0	0	1	2	0	0	2	3	1	2	0	0	1	2	3	5		
A	58	97	0	0	59	98	0	0	58	97	59	98	60	100	58	97	56	93		
B+	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2		
Small N	0	0	60	100	0	0	60	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 6.D.61: DIF Classifications for Algebra II Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	4	6
B-	0	0	0	0	2	3	0	0	3	4	1	1	2	3	4	6	8	11		
A	68	94	0	0	68	94	0	0	65	90	71	99	69	96	62	86	61	85		
B+	1	1	0	0	2	3	0	0	3	4	0	0	0	0	0	0	2	3		
C+	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0		
Small N	0	0	72	100	0	0	72	100	0	0	0	0	0	0	6	8	0	0		
TOTAL	72	100	72	100	72	100	72	100	72	100	72	100	72	100	72	100	72	100		

Table 6.D.62: DIF Classifications for Summative High School Mathematics Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	1	4
B-	3	13	0	0	0	0	0	0	1	4	0	0	2	8	1	4	2	8		
A	21	88	0	0	24	100	0	0	22	92	24	100	22	92	23	96	20	83		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	24	100	0	0	24	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	24	100	24	100	24	100	24	100	24	100	24	100	24	100	24	100	24	100		

Table 6.D.63: DIF Classifications for Integrated Mathematics 1 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D. 64: DIF Classifications for Integrated Mathematics 2 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	6	100	0	0	6	100	0	0	0	0	6	100	0	0	0	0	0	0		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	6	100	0	0	6	100	6	100	0	0	6	100	6	100	6	100		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D.65: DIF Classifications for Integrated Mathematics 3 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D.66: DIF Classifications for Science Grade 5 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1
B-	0	0	0	0	3	1	0	0	12	6	0	0	3	1	11	5	4	2		
A	208	99	0	0	194	92	0	0	188	90	202	96	207	99	199	95	203	97		
B+	2	1	0	0	10	5	0	0	10	5	7	3	0	0	0	0	1	0		
C+	0	0	0	0	3	1	0	0	0	0	1	0	0	0	0	0	0	0		
Small N	0	0	210	100	0	0	210	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100		

Table 6.D.67: DIF Classifications for Biology Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	2	1
B-	2	1	0	0	1	0	0	0	6	3	1	0	2	1	5	2	6	3		
A	206	98	0	0	203	97	0	0	196	93	204	97	208	99	205	98	204	97		
B+	2	1	0	0	5	2	0	0	6	3	5	2	0	0	0	0	0	0		
C+	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	210	100	0	0	210	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100		

Table 6.D.68: DIF Classifications for Chemistry Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	2	1	0	0	0	0	2	1	0	0	0	0	2	1	6	3
B-	7	3	0	0	5	2	0	0	1	0	2	1	4	2	13	6	24	11		
A	199	95	0	0	200	96	0	0	30	14	204	98	205	98	189	90	180	86		
B+	1	0	0	0	2	1	0	0	0	0	1	0	0	0	1	0	3	1		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	209	100	0	0	209	100	178	85	0	0	0	0	6	3	0	0		
TOTAL	209	100	209	100	209	100	209	100	209	100	209	100	209	100	209	100	209	100		

Table 6.D.69: DIF Classifications for Earth Science Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0
B-	3	1	0	0	0	0	0	0	0	0	8	3	3	1	15	6	8	3		
A	259	98	6	2	89	34	0	0	6	2	246	93	260	98	245	93	254	96		
B+	2	1	0	0	1	0	0	0	0	0	9	3	0	0	3	1	2	1		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0		
Small N	0	0	258	98	174	66	264	100	258	98	0	0	0	0	0	0	0	0		
TOTAL	264	100	264	100	264	100	264	100	264	100	264	100	264	100	264	100	264	100		

Table 6.D.70: DIF Classifications for Physics Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
B-	7	3	0	0	4	2	0	0	0	0	3	1	0	0	0	0	0	0		
A	190	90	0	0	111	53	0	0	0	0	189	90	117	56	6	3	6	3		
B+	11	5	0	0	5	2	0	0	0	0	5	2	3	1	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
Small N	0	0	210	100	90	43	210	100	210	100	12	6	90	43	204	97	204	97		
TOTAL	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100		

Table 6.D.71: DIF Classifications for Integrated Science 1 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	5	83	6	100	5	83	6	100	5	83	5	83	6	100	6	100	6	100		
B+	1	17	0	0	1	17	0	0	1	17	1	17	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D.72: DIF Classifications for Integrated Science 2 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	17	0	0	0	0	1	17	0	0	1	17	0	0	1	17
B-	0	0	0	0	0	0	0	0	1	17	0	0	1	17	0	0	1	17		
A	5	83	0	0	5	83	0	0	5	83	5	83	5	83	5	83	5	83		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	6	100	0	0	6	100	0	0	0	0	0	0	0	0	0	0		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D.73: DIF Classifications for Integrated Science 3 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A	6	100	0	0	6	100	0	0	0	0	6	100	6	100	6	100	6	100		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	6	100	0	0	6	100	6	100	0	0	0	0	0	0	0	0		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D.74: DIF Classifications for Integrated Science 4 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17		
A	5	83	0	0	0	0	0	0	0	0	0	0	6	100	0	0	5	83		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	6	100	6	100	6	100	6	100	6	100	0	0	6	100	0	0		
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100		

Table 6.D.75: DIF Classifications for Science Grade 8 Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	5	2
B-	9	4	0	0	3	1	0	0	3	1	1	0	4	2	13	6	8	4		
A	197	94	20	10	196	93	20	10	189	90	202	96	206	98	190	90	193	92		
B+	3	1	0	0	10	5	0	0	7	3	7	3	0	0	7	3	4	2		
C+	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0		
Small N	0	0	190	90	0	0	190	90	10	5	0	0	0	0	0	0	0	0		
TOTAL	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100		

Table 6.D.76: DIF Classifications for Life Science Field-test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	1
B-	7	3	0	0	5	2	0	0	5	2	4	2	2	1	2	1	8	4		
A	202	96	20	10	204	97	20	10	196	93	205	98	207	99	204	97	195	93		
B+	1	0	0	0	0	0	0	0	8	4	1	0	1	0	4	2	4	2		
C+	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1		
Small N	0	0	190	90	0	0	190	90	0	0	0	0	0	0	0	0	0	0		
TOTAL	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100	210	100		

Chapter 7: Item Quality

This chapter summarizes the item-level statistics obtained for the California standards-testing program administered during spring of 2005. This includes items on ten grade-specific ELA CSTs for grades 2 to 11, three history-social science CSTs for grades 8, 10, and 11, six grade-specific mathematics CSTs for grades 2 to 7, eight math end-of-course CSTs including three integrated tests, and eight science end-of-course CSTs including four integrated tests. Analyses are also presented for items on a science CST designed for grade 5 students that was administered to students at that particular grade. The integrated math and science CSTs consisted of questions that were also administered in content-specific CSTs. Each CST was composed of dichotomously scored multiple choice (MC) items except for ELA, where a polytomously scored writing task was also presented as part of the grades 4 and 7 tests.

The CSTs also included either blocks of six field-test items that were not included in the operational test scores, or various blocks of six reading-list items. Different sets of items were presented in each form (version)[7] for the various CSTs. The number of forms for ELA ranged from two forms at grade 8, to 18 forms at grades 7 and 11. The range for the number of forms was similar for the mathematics CSTs; however, larger numbers of items were field-tested at grades 4, 6, and 7, where items were presented in 20 forms. In most of the history-social science and science CSTs, the items were field-tested in 30 to 35 forms. The exceptions were the Grade 8 History-Social Science and the Earth Science CSTs, where items were presented in 40 and 44 forms respectively. Thus, the largest numbers of items (240 and 264 items) were field-tested for these tests. The General Math, Integrated Math, and Integrated Science CSTs were administered in only a single version. Two additional science CSTs — Life Science and Grade 8 Science — were also field-tested. The items in each of these tests were administered in 20 forms.

As described in Chapter 1, different CST analyses were conducted at different times in the testing process and involved different proportions of the full CST data. Most of the information presented in this chapter is based on the sample of student data that was used in the final item analyses (FIA), which comprised about 40 to 45 percent of the full CST data. However, the classical item-analysis statistics reported in this chapter were calculated on the data file that was used for the August 15 reporting (called P2, the second run of production data). This file contained about 90 percent of the test results. In addition, item-level analyses for the end-of-course math CSTs were limited to the students in targeted grades (i.e., grade 8 for Algebra I, grade 9 for Geometry, grade 10 for Algebra II, and grade 11 for Summative High School Math), as was done by the previous, to provide consistent item level ststaistics across time. For ease of comparison, the results of some classical item analyses for the end-of-course math CSTs are presented for both sets of data (the FIA and the P2 file).

Table 7.1 summarizes information about the test forms[8] and students included in the item-level analyses, including the numbers of test forms, operational items, field-test items, and the approximate number of students taking operational and field-test items in the P2 and FIA samples. Since there was only one form for the integrated CSTs, the counts for the operational and field-test sections are the same. The field-test items are used as place holders to make the tests of uniform length. The statistics

[7] A version of a test is one that has the same operational form of the test with different pretest item sets. These are considered different *forms* of the same test.

[8] A form was counted as a field-test form if it contains one or more field-test items.

used for the assembly of these CSTs are based on the content-specific results. The number of items field-tested will vary from content area to content area depending on the need for new items in the item pools used for test assembly.

Table 7.1: Summary of Items and Forms Presented in 2005 CSTs

		Operational			Field Test			
Subject	**CST**	**# Items**	**# Examinees FIA Sample**	**# Examinees Total (P2)**	**# Forms**	**# Items**	**# Examinees FIA Sample**	**# Examinees Total (P2)**
English-Language Arts	**2**	65	199,938	466,054	8	48	19,267–29,068	56,918–59,018
	3	65	202,686	473,158	4	24	16,878–151,990	39,462–354,761
	4	75	202,157	479,413	10	60	10,187–106,420	23,929–250,777
	5	75	204,837	485,359	6	36	5,722–175,443	13,789–452,734
	6	75	207,633	483,008	12	71	10,349–0,017	23,929–208,467
	7	75	214,217	481,346	18	106	10,283–30,168	23,105–67,613
	8	75	216,379	489,007	2	12	5,657–210,722	12,544–472,271
	9	75	236,713	512,712	6	36	37,284–49,013	74,781–124,786
	10	75	218,761	458,455	14	84	6,027–136,596	12,530–280,735
	11	75	198,512	407,408	18	104	6,135–85,080	12,257–170,958
History-Social Science	**8**	75	215,761	487,088	40	240	4,543–6,088	10,326–13,458
	10	60	215,626	451,731	35	210	5,898–7,315	12,162–15,232
	11	60	195,325	400,563	30	180	5,993–7,900	12,079–16,109
Mathematics	**2**	65	200,043	466,147	5	30	20,729–95,680	56,932–234,185
	3	65	202,720	472,847	12	72	16,788-16,961	38,724-39,956
	4	65	203,034	480,644	20	120	8,359–11,144	19,841–25,824
	5	65	204,878	485,291	15	90	5,633–122,983	13,224–288,270
	6	65	207,562	482,447	20	118	8,911–11,056	20,636–25,371
	7	65	214,594	481,761	20	120	9,261–11,270	20,900–24,992
	General Math	65	184,040	368,957	1	6	184,040	368,957
	Algebra I	65	90,642	675,464	8	48	10,645–14,728	79,005–107,718
	Geometry	64*	45,268	331,509	10	60	4,239–5,309	27,789–67,956
	Algebra II	64*	39,554	195,481	12	72	3,241–3,403	16,001–16,588
	High School Math	65	35,737	90,632	4	24	8,798–9,054	22,142–22,966
	Integrated Math 1	64*	267	8,503	1	6	267	8,503
	Integrated Math 2	64*	663	6,653	1	6	663	6,653
	Integrated Math 3	65	423	3,551	1	6	423	3,551
Science	**Grade 5 Science**	60	204,597	484,500	35	210	5,525–6,127	13,003-14,193
	Biology	60	218,892	451,532	35	210	5,889-8,060	11,271–22,910
	Chemistry	60	88,376	196,248	35	209	2,443-2,636	3,225–27,276
	Earth Science	60	96,145	172,443	44	264	1,928–10,812	5,394–5,867
	Physics	60	23,313	59,149	35	210	570–2,446	1,427–7,818
	Integrated Science 1	60	41,434	110,724	1	6	41,434	110,724
	Integrated Science 2	60	8,694	20,563	1	6	8,694	20,563
	Integrated Science 3	60	2,572	3,398	1	6	2,572	3,398
	Integrated Science 4	60	920	1,031	1	6	920	1,031

* One item each was found to be flawed in the Algebra and Geometry CSTs, thus, the number of operational items was reduced from 65 to 64. These items also appeared in the Integrated Math 1 and Integrated Math 2 CSTs, respectively.

The statistics presented in this chapter are divided into two sections as follows:

1. Summaries of classical item-level analyses, including item proportion correct (p-value), point-biserial correlations (Pt-Rbis) for each operational item, and summaries of overall p-value and point-biserial correlation statistics across operational items. These statistics are presented in Appendix 7.A on page 246.
2. Summaries of Rasch model item difficulty statistics (b-values) for operational and field-test items, and summaries of item classifications based on the fit of the Rasch model to the data, reported in letter categories of A, B, C, D, and F (IRT flag) for operational and field-test items. These statistics are presented in Appendix 7.B on page 260.

Differential Item Functioning analyses were performed on all operational items and all field-test items for which sufficient student samples were available. Those results have been presented earlier in Appendix 6.D of chapter 6.

Item Analyses

This section describes the overall and item-by-item proportion correct indices as well as the point-biserial correlation indices for the operational items. The point-biserial correlation is a special case of the Pearson product-moment correlation used to measure the relationship between two variables, one dichotomous and one continuously measured. In this case, the item score (right/wrong) and the total test score. The well-known formula for the Pearson product-moment correlation is:

$$R_{it} = \frac{Cov(i,t)}{\sigma_{xi}\sigma_t} \qquad (1)$$

where,

Cov(i,t) is the Covariance between an item *i* and total score *t*

σ_{xi} is the standard deviation for an item *i*

σ_t is the standard deviation for *t*

Table 7.2 presents summary indices for each operational test. Both the mean and median are provided. Detailed tables are provided in Appendix 7.A on page 246.

The data in Table 7.2 indicate that most of the CSTs were medium-difficulty tests (with average p-values around 0.5 to 0.6)[9]. The CSTs that were most difficult for these students (p-value <= 0.50) were Algebra I, General Math, Algebra II, History-Social Science, Grade 5 Science, Earth Science, and most of the Integrated Math and Science CSTs. The Integrated Math 3 CST (p-value = 0.51) and the Integrated Science 4 CST (p-value = 0.49) proved to be easier in the 2005 administration than previous years. The CSTs that were easiest for California students were mathematics administered at grades 2, 3, and 4, as well as Summative High School Math (p-value = 0.68). The subject area of mathematics had large variation in the level of difficulty of various tests; the Grade 2 Mathematics CST was the

[9] The average p-value can differ from one test to another for many reasons. This include the perspective of the Test Development committee, the available items in the assembly pool, the use of items assembled for one population being used with another (e.g., Integrated Science Tests), historically different assembly targets for different tests, changes in the population taking the test from the population used to develop the target, and discrepancies between the target and the assembled test.

easiest (p-value = 0.73) and the Integrated Math I CST proved to be the most difficult (p-value = 0.39). The difficulty level of Algebra I, Geometry, and Algebra II was much lower when the analyses were performed on the examinees specific to the corresponding grades (i.e., grade 8 examinees for Algebra I, grade 9 examinees for Geometry, grade 10 examinees for Algebra II).

The average item-total correlations indicated levels of item discrimination that were similar to expectations. This index was greater than or equal to 0.40 for 20 out of 36 CSTs and was between 0.35 and 0.39 for 10 CSTs. Most of the grade-specific math and ELA CSTs exhibited higher item-total correlations — 0.42 to 0.47 for the mathematics CSTs, 0.40 to 0.46 for the ELA CSTs. The point-biserial correlations were slightly lower for a majority of history-social science and science CSTs with values ranging from 0.36 to 0.40. The point-biserial correlations for items appearing in most of the integrated math and science CSTs were much lower compared to the point-biserials obtained for these items when administered in the content-specific tests. This is likely due to the lower scores and lower variability in the student samples taking the integrated CSTs compared with those taking the content-specific CSTs. The value of the point-biserial index of correlation for the integrated science CST (mean Pt-Rbis=0.38) was significantly higher when compared with the previous test administrations.

The item-by-item values for the indices are presented in Tables 7.A.1 to 7.A.5 in Appendix 7.A on page 246.

Table 7.2: Average (and Median) Proportion Correct and Point-Biserial

		Mean		Median	
Subject	**CST**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
English-Language Arts	**2**	0.62	0.46	0.63	0.48
	3	0.61	0.43	0.60	0.43
	4	0.59	0.43	0.59	0.45
	5	0.60	0.43	0.59	0.44
	6	0.59	0.42	0.58	0.42
	7	0.59	0.41	0.60	0.41
	8	0.57	0.40	0.56	0.41
	9	0.58	0.43	0.58	0.44
	10	0.60	0.44	0.59	0.45
	11	0.58	0.43	0.57	0.45
History-Social Science	**8**	0.48	0.37	0.46	0.38
	10	0.50	0.39	0.50	0.41
	11	0.50	0.41	0.50	0.41
Mathematics	**2**	0.73	0.44	0.75	0.45
	3	0.71	0.44	0.71	0.45
	4	0.70	0.47	0.73	0.48
	5	0.61	0.46	0.64	0.45
	6	0.60	0.44	0.60	0.45
	7	0.55	0.42	0.56	0.43
	General Math	0.47	0.36	0.47	0.37
	Algebra I	0.42 (*0.49)	0.33 (*0.38)	0.41 (*0.48)	0.35 (*0.39)
	Geometry	0.54 (*0.65)	0.41 (*0.41)	0.53 (*0.65)	0.42 (*0.43)
	Algebra II	0.51 (*0.56)	0.38 (0.37)	0.53 (*0.57)	0.38 (*0.37)

		Mean		Median	
Subject	**CST**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
	High School Math	0.68 (*0.66)	0.41 (*0.41)	0.68 (*0.66)	0.43 (*0.42)
	Integrated Math 1	0.39	0.30	0.36	0.30
	Integrated Math 2	0.46	0.34	0.45	0.35
	Integrated Math 3	0.51	0.36	0.50	0.36
Science	**Grade 5 Science**	0.50	0.36	0.51	0.36
	Biology	0.52	0.38	0.52	0.39
	Chemistry	0.52	0.38	0.50	0.37
	Earth Science	0.48	0.37	0.47	0.39
	Physics	0.52	0.40	0.51	0.41
	Integrated Science 1	0.40	0.29	0.40	0.31
	Integrated Science 2	0.40	0.26	0.38	0.26
	Integrated Science 3	0.37	0.27	0.38	0.27
	Integrated Science 4	0.49	0.38	0.50	0.38

*Grade-Specific

IRT Analyses

The results of the IRT analyses are presented in Appendix 7.B on page 260. Tables 7.B.1 to 7.B.44 present summary univariate statistics (mean, standard deviation, minimum, and maximum) and distributions for the IRT b-values after scaling. These statistics are listed for the operational test, by cluster scores, and for the field-test items. Tables 7.B.45 to 7.B.54 present the results of the IRT model-data fit investigation for the CSTs. The tables are presented for all grade-specific and end-of-course CSTs. No IRT statistics are presented for the integrated science CSTs because these tests are comprised entirely of items that are administered in the content-specific CSTs.

Summaries on IRT b-values

As shown in tables 7.B.1 to 7.B.32, the overall difficulty level of the field-test items was higher than the operational items for all English-language arts tests. The differences between the mean difficulty of the operational and field-test items ranged from 0.47 to 0.77 for a majority of the ELA CSTs except for grades 2 and 3, where the mean difficulty difference was 0.23 and 0.29 respectively. For history-social science, operational items also appeared to be easier than the field-test items with differences in average b-values of 0.57, 0.60 and 0.44 occurring for grades 8, 10, and 11 respectively. A similar scenario was observed for all science CSTs, that is, the overall difficulty level of the field-test items was higher than the operational items.

For mathematics CSTs, the overall difficulty level of the field-test items was significantly higher than the operational items for majority of the tests. For grades 4 to 7, General Math, and Summative High School Math, the mean difficulty levels of operational items were notably higher with differences in the range of 0.84 to 1.28.

The exceptions to the above-mentioned trend were the Grade 2 Mathematics and Integrated Math 2 CSTs, where the level of difficulty was lower for the field-test items. The tests had respective mean difficulties of –0.89 and –0.17 for the operational items and mean difficulties of –1.07 and –0.23 for the field-test items.

For some grade-specific operational tests, some clusters were easier across all grades. For a majority of ELA CSTs, the clusters of "Word Analysis and Vocabulary" and "Written and Oral Conventions" were considerably easier than the remainder of the test. For most of the math CSTs administered at grades 2 to 6, the content related to "Algebra and Functions" and "Statistics, Data Analysis and Probability" were easier than other areas of the grade-specific math CSTs. An interesting result is worth noting in Geometry, where all content areas had exactly similar mean difficulty level of –0.80.

The summary of IRT statistics on the two NCLB science CSTs (Grade 8 Science and Grade 10 Life Science) is presented in tables 7.B.33 and 7.B.34. There were 210 items field-tested in 20 forms for each of these CSTs. The mean difficulty of the two CSTs were 0.29 and 0.22 respectively.

Tables 7.B.35 to 7.B.44 depict a more detailed presentation of IRT b-values for the operational and field-test items. The tables show the distribution of items at 16 IRT b-value intervals, where the b-values ranged from "less than –3.5" to "greater than or equal to 3.5" points within each interval. These distributions indicated that most of the items had difficulty levels in the range of –2.0 and 2.0 for majority of CSTs except for a few mathematics CSTs. For mathematics, several operational and field-test items were found to have IRT b-values below –2.0. The pattern was frequently observed for the operational items administered at grades 2, 3, and 4 and for the subject areas of Geometry and Summative High School Math. The IRT b-values that were less than –2.0 were also found for the mathematics field-test items administered at grades 2 and 3.

IRT Model-Data Fit Analyses

Because the Rasch model is used in equating and scaling the CSTs, an important part of IRT item analyses is the assessment of model-data fit. ETS statisticians classified operational and field-test items for the CSTs into discrete categories based on an evaluation of how well each item was fit by the Rasch model. The flagging procedure has categories of A, B, C, D, and F that are assigned based on an evaluation of graphical model-data fit information. Descriptors for each category are provided below. The IRT item characteristic curves and empirical data (item-ability regressions) for five recently field-tested items are shown in Figure 7.1. These five items illustrate the various rating categories. The item number in the calibration and ETS identification number for each item ("accession number") are listed next to each item as well as the corresponding rating categories.

Flag A (Item 236, CSV23487)

Good fit of theoretical curve to empirical data along the entire ability range, may have some small divergence at the extremes

Small Chi-square value relative to the other items in the calibration with similar sample sizes

Flag B (Item 061, CSV22589)

Theoretical curve within error range across most of ability range, may have some small divergence at the extremes

Acceptable Chi-square value relative to the other items in the calibration with similar sample sizes

Flag C (Item 165, CSV20282)

Theoretical curve within error range at some regions and slightly outside of error range at remaining regions of ability range

Moderate Chi-square value relative to the other items in the calibration with similar sample sizes

This category often applies to items that appear to be functioning well, but that are not well fit by the Rasch model

Flag D (Item 113, CSV20317)

Theoretical curve outside of error range at some regions across ability range

Large Chi-square value relative to the other items in the calibration with similar sample sizes

Flag F (Item 184, CSV20311)

Theoretical curve outside of error range at most regions across ability range

Probability of answering item correctly may be higher at lower ability than higher ability (U-shaped empirical curve)

Very large Chi-square value relative to the other items with similar sample sizes and classical item statistics tend also to be very poor.

In general, items with flagging categories of A, B, or C are all considered acceptable. Ratings of D are considered questionable — test developers are asked to avoid these items if possible and to carefully review them if they must be used. Test developers are instructed to avoid using items rated F for operational test assembly without a review by a psychometrician.

The results of the IRT model data fit classifications are presented in Tables 7.B.45 to 7.B.49 for operational items and in Tables 7.B.50 to 7.B.54 for the field-test items. In general, very few operational items were rated as F items for all 36 CSTs. For ELA, 10 items across the 10 tests and for mathematics, six items across six grade-specific tests (items) received model data fit ratings of F. Overall, more than 98% of items received model data fit ratings of A, B, or C for each grade for each of the two CSTs. The percentage of flagged items was even lower for the end-of-course CSTs, where none of the items in mathematics and only one item in physics was rated as F. The only math CSTs where items received an F model data-fit rating were Integrated Math CSTs. However, the number of flagged items for these tests was much lower than previous years. Across the three Integrated Math CSTs, 3% of the items were flagged as having bad model data fit; four out of those five flagged items belonged to the Integrated Math 2 CST. This appears to result from a test that was very difficult for the population being tested. For history-social science CSTs, none of the items were flagged for having an F fit rating.

As would be expected, a larger percentage of the field-test items received model-data fit ratings of F compared with the operational items. The percentages of flagged items were, however, considerably lower than previous years. The percentage of field-test items with F ratings ranged from 3% to 20% across the 10 ELA CSTs and from 9% to 15% for the three history-social science CSTs. For the grade-specific math CSTs, grades 2 and 3 had the lowest percentage of F ratings (4%), and grade 7 had the highest percentage of F ratings (31%). The percentage of items with F ratings varied considerably across the end-of-course math CSTs. These values ranged from 2% for Geometry to 33% for the General Math CST. None of the items was flagged for the Integrated Math 2 field test. For science, 8% to 30% of the items were flagged with F ratings.

For Grade 5 Science and Life Science field tests, out of 420 items, seven items were flagged for F model data-fit. All of those flagged items belonged to the subject area of Life Science while none of the items received a model data-fit rating of F for Grade 8 Science.

Summary of Item-Level Analyses

The item-level analyses of the 2005 CSTs presented in this chapter included classical item analyses and IRT analyses. Overall, these analyses indicate that the CSTs administered in 2005 meet the technical criteria established in professional standards for high-stakes tests, and that the items field-tested as part of the 2005 administration have statistical characteristics that are appropriate for use in future administrations.

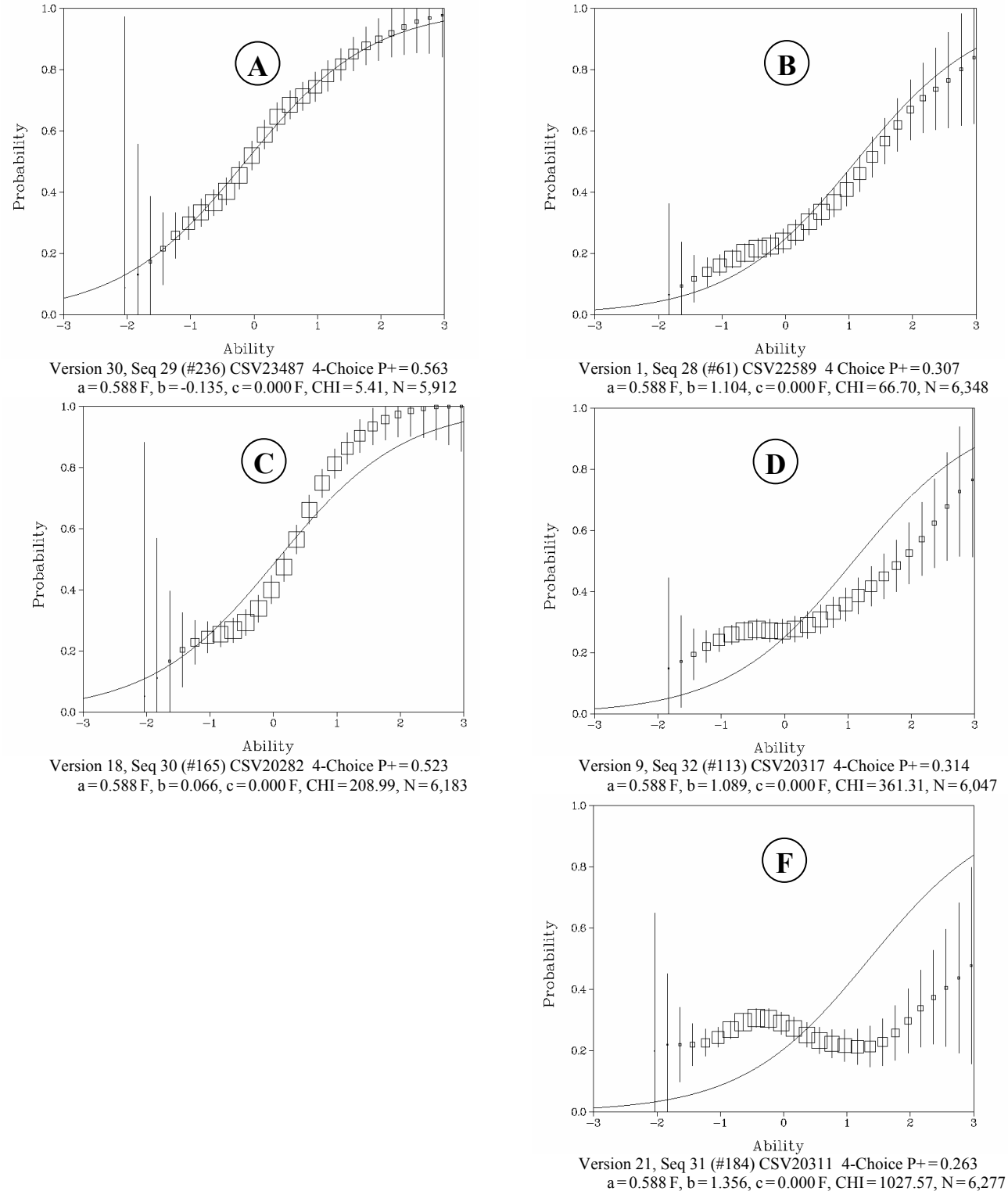

Figure 7.1: Items from the 2005 History-Social Science Grade 10 Field-test Calibration

References

Holland, P.W. and Thayer, D.T. *An alternative definition of the ETS delta scale of item difficulty*. *RR-85-43*, 1985.

Hambleton, R.K. and Swaminathan, H. *Item Response Theory: Principles and Applications*. Boston, MA: Kluwer-Nijhoff, 1985.

Appendix 7.A — Item-by-Item p-value and Point-Biserial Tables

Table 7.A.1: Item-by-item p-value and Point-Biserial for English-Language Arts

Item-by-item p-value and Point-Biserial for English-Language Arts																				
CSTs	**2**		**3**		**4**		**5**		**6**		**7**		**8**		**9**		**10**		**11**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
1	0.81	0.40	0.88	0.44	0.79	0.49	0.86	0.41	0.77	0.42	0.60	0.37	0.51	0.38	0.80	0.35	0.84	0.25	0.52	0.29
2	0.72	0.50	0.68	0.42	0.72	0.42	0.70	0.47	0.72	0.38	0.37	0.24	0.77	0.45	0.58	0.51	0.60	0.36	0.62	0.47
3	0.50	0.48	0.47	0.42	0.90	0.33	0.62	0.44	0.66	0.40	0.55	0.32	0.45	0.28	0.78	0.43	0.34	0.39	0.67	0.37
4	0.91	0.26	0.76	0.41	0.64	0.49	0.84	0.38	0.47	0.41	0.42	0.37	0.54	0.45	0.76	0.44	0.53	0.50	0.70	0.51
5	0.63	0.29	0.55	0.52	0.25	0.19	0.94	0.34	0.55	0.39	0.44	0.33	0.77	0.28	0.78	0.39	0.47	0.38	0.49	0.33
6	0.55	0.26	0.65	0.44	0.68	0.48	0.77	0.52	0.62	0.48	0.78	0.41	0.66	0.34	0.78	0.50	0.50	0.30	0.50	0.37
7	0.50	0.41	0.57	0.42	0.56	0.55	0.66	0.50	0.36	0.29	0.54	0.37	0.52	0.41	0.76	0.50	0.62	0.19	0.71	0.50
8	0.59	0.46	0.45	0.42	0.56	0.44	0.50	0.46	0.48	0.26	0.68	0.41	0.34	0.33	0.46	0.49	0.59	0.42	0.40	0.22
9	0.89	0.47	0.73	0.49	0.36	0.37	0.73	0.54	0.65	0.48	0.61	0.46	0.55	0.45	0.70	0.40	0.77	0.44	0.83	0.53
10	0.49	0.49	0.58	0.36	0.50	0.35	0.48	0.45	0.59	0.28	0.76	0.46	0.66	0.43	0.39	0.31	0.47	0.40	0.52	0.41
11	0.80	0.52	0.84	0.44	0.78	0.54	0.75	0.43	0.59	0.33	0.61	0.32	0.38	0.28	0.30	0.27	0.59	0.49	0.41	0.37
12	0.64	0.55	0.59	0.41	0.60	0.48	0.50	0.43	0.37	0.33	0.64	0.32	0.41	0.28	0.54	0.49	0.83	0.51	0.72	0.40
13	0.44	0.42	0.68	0.37	0.80	0.40	0.49	0.48	0.60	0.42	0.57	0.35	0.65	0.43	0.67	0.46	0.75	0.47	0.55	0.46
14	0.51	0.28	0.46	0.42	0.84	0.50	0.46	0.31	0.58	0.35	0.84	0.39	0.69	0.26	0.61	0.41	0.64	0.46	0.60	0.45
15	0.65	0.53	0.65	0.57	0.58	0.40	0.73	0.56	0.55	0.44	0.58	0.44	0.60	0.27	0.50	0.44	0.69	0.50	0.46	0.39
16	0.67	0.55	0.52	0.37	0.64	0.47	0.58	0.48	0.57	0.47	0.33	0.30	0.37	0.30	0.36	0.31	0.82	0.46	0.46	0.23
17	0.64	0.53	0.60	0.50	0.64	0.51	0.75	0.44	0.66	0.51	0.33	0.30	0.79	0.38	0.56	0.57	0.51	0.45	0.66	0.49
18	0.46	0.43	0.50	0.36	0.67	0.34	0.77	0.47	0.59	0.53	0.57	0.33	0.61	0.45	0.55	0.48	0.76	0.58	0.57	0.27
19	0.74	0.50	0.64	0.44	0.76	0.47	0.44	0.38	0.49	0.29	0.50	0.45	0.58	0.44	0.51	0.41	0.65	0.58	0.68	0.61
20	0.62	0.32	0.49	0.44	0.43	0.52	0.62	0.46	0.42	0.39	0.52	0.33	0.74	0.36	0.62	0.47	0.50	0.45	0.81	0.53
21	0.77	0.54	0.52	0.43	0.51	0.48	0.77	0.49	0.34	0.32	0.74	0.43	0.53	0.19	0.75	0.48	0.72	0.43	0.61	0.51
22	0.37	0.41	0.61	0.58	0.63	0.58	0.81	0.49	0.69	0.41	0.64	0.48	0.47	0.32	0.47	0.39	0.59	0.42	0.41	0.32
23	0.49	0.31	0.31	0.39	0.64	0.48	0.41	0.49	0.53	0.48	0.50	0.37	0.43	0.29	0.57	0.49	0.57	0.57	0.51	0.34
24	0.72	0.52	0.30	0.20	0.74	0.56	0.53	0.41	0.66	0.38	0.72	0.56	0.47	0.37	0.65	0.42	0.63	0.48	0.64	0.35
25	0.58	0.54	0.44	0.39	0.61	0.57	0.67	0.53	0.35	0.36	0.79	0.42	0.45	0.36	0.59	0.49	0.61	0.43	0.56	0.37
26	0.66	0.37	0.78	0.48	0.73	0.55	0.39	0.30	0.51	0.34	0.41	0.29	0.58	0.42	0.41	0.38	0.52	0.41	0.62	0.53
27	0.42	0.36	0.81	0.54	0.72	0.49	0.44	0.42	0.55	0.35	0.61	0.51	0.48	0.30	0.64	0.49	0.67	0.38	0.37	0.24
28	0.47	0.45	0.59	0.50	0.78	0.55	0.45	0.42	0.40	0.39	0.78	0.52	0.44	0.45	0.37	0.35	0.59	0.36	0.51	0.43
29	0.53	0.48	0.52	0.47	0.42	0.29	0.52	0.46	0.69	0.55	0.50	0.32	0.59	0.42	0.64	0.49	0.55	0.57	0.67	0.44
30	0.50	0.41	0.31	0.35	0.53	0.36	0.49	0.39	0.39	0.46	0.48	0.46	0.43	0.31	0.46	0.37	0.36	0.21	0.54	0.40
31	0.66	0.52	0.75	0.33	0.42	0.26	0.59	0.56	0.69	0.53	0.69	0.50	0.61	0.39	0.69	0.45	0.62	0.55	0.50	0.43
32	0.70	0.49	0.73	0.55	0.46	0.35	0.49	0.35	0.56	0.37	0.59	0.52	0.63	0.50	0.34	0.25	0.48	0.37	0.44	0.48
33	0.61	0.55	0.59	0.47	0.45	0.48	0.32	0.28	0.52	0.30	0.52	0.38	0.46	0.37	0.39	0.47	0.72	0.60	0.52	0.39
34	0.64	0.55	0.39	0.36	0.69	0.55	0.41	0.33	0.59	0.49	0.70	0.40	0.52	0.42	0.57	0.59	0.42	0.47	0.36	0.35
35	0.64	0.56	0.52	0.43	0.67	0.55	0.54	0.44	0.61	0.39	0.57	0.40	0.45	0.33	0.32	0.22	0.54	0.50	0.51	0.38
36	0.59	0.41	0.67	0.47	0.29	0.24	0.58	0.44	0.53	0.30	0.58	0.48	0.68	0.50	0.61	0.52	0.51	0.38	0.44	0.26
37	0.61	0.42	0.87	0.26	0.61	0.29	0.36	0.37	0.52	0.48	0.74	0.42	0.41	0.38	0.53	0.42	0.59	0.52	0.47	0.27
38	0.84	0.39	0.42	0.29	0.48	0.42	0.50	0.44	0.58	0.41	0.70	0.55	0.41	0.46	0.62	0.30	0.54	0.43	0.58	0.38
39	0.58	0.56	0.37	0.27	0.42	0.29	0.61	0.53	0.56	0.45	0.80	0.44	0.54	0.51	0.69	0.20	0.50	0.39	0.51	0.27
40	0.62	0.41	0.51	0.39	0.85	0.49	0.79	0.38	0.51	0.36	0.66	0.46	0.41	0.23	0.55	0.38	0.67	0.54	0.68	0.56

Item-by-item p-value and Point-Biserial for English-Language Arts

CSTs	2		3		4		5		6		7		8		9		10		11	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
41	0.66	0.63	0.46	0.32	0.76	0.45	0.59	0.35	0.57	0.51	0.41	0.37	0.52	0.43	0.52	0.16	0.48	0.40	0.46	0.41
42	0.63	0.48	0.68	0.37	0.74	0.48	0.62	0.39	0.65	0.39	0.48	0.22	0.44	0.34	0.74	0.42	0.64	0.43	0.58	0.46
43	0.73	0.56	0.74	0.48	0.48	0.34	0.60	0.47	0.73	0.42	0.61	0.28	0.60	0.47	0.51	0.41	0.64	0.48	0.50	0.35
44	0.53	0.41	0.68	0.47	0.44	0.37	0.79	0.44	0.80	0.43	0.74	0.41	0.83	0.44	0.40	0.24	0.78	0.51	0.75	0.60
45	0.61	0.42	0.45	0.38	0.71	0.49	0.39	0.21	0.65	0.47	0.81	0.42	0.67	0.51	0.51	0.43	0.57	0.45	0.62	0.51
46	0.72	0.55	0.70	0.49	0.50	0.44	0.45	0.34	0.70	0.45	0.72	0.45	0.56	0.43	0.64	0.56	0.60	0.46	0.51	0.35
47	0.57	0.38	0.67	0.47	0.51	0.30	0.68	0.44	0.52	0.37	0.60	0.41	0.83	0.40	0.64	0.51	0.59	0.47	0.68	0.53
48	0.69	0.52	0.74	0.45	0.68	0.44	0.63	0.36	0.60	0.35	0.40	0.42	0.59	0.47	0.48	0.39	0.50	0.47	0.56	0.48
49	0.26	0.25	0.68	0.51	0.59	0.34	0.69	0.55	0.80	0.43	0.64	0.45	0.55	0.44	0.46	0.43	0.68	0.43	0.39	0.28
50	0.69	0.57	0.56	0.53	0.80	0.28	0.37	0.34	0.88	0.39	0.44	0.44	0.44	0.29	0.41	0.32	0.70	0.52	0.35	0.26
51	0.61	0.52	0.51	0.35	0.46	0.44	0.78	0.34	0.61	0.56	0.52	0.47	0.68	0.48	0.57	0.45	0.70	0.51	0.55	0.34
52	0.63	0.55	0.51	0.43	0.53	0.43	0.24	0.24	0.52	0.43	0.64	0.50	0.54	0.44	0.57	0.43	0.55	0.51	0.67	0.54
53	0.67	0.54	0.74	0.32	0.59	0.38	0.80	0.47	0.57	0.47	0.45	0.33	0.66	0.41	0.38	0.28	0.75	0.51	0.69	0.49
54	0.55	0.54	0.55	0.38	0.64	0.39	0.50	0.47	0.72	0.44	0.67	0.48	0.88	0.38	0.48	0.53	0.51	0.36	0.38	0.28
55	0.57	0.48	0.75	0.47	0.43	0.36	0.61	0.46	0.51	0.42	0.63	0.45	0.85	0.48	0.33	0.31	0.49	0.50	0.74	0.49
56	0.73	0.47	0.80	0.54	0.50	0.53	0.57	0.42	0.31	0.37	0.58	0.51	0.46	0.33	0.69	0.54	0.43	0.34	0.55	0.35
57	0.56	0.40	0.54	0.50	0.63	0.49	0.63	0.51	0.74	0.41	0.61	0.35	0.64	0.44	0.64	0.52	0.73	0.45	0.63	0.41
58	0.56	0.33	0.74	0.53	0.49	0.40	0.60	0.49	0.36	0.33	0.75	0.37	0.69	0.53	0.78	0.51	0.70	0.55	0.76	0.56
59	0.44	0.37	0.74	0.49	0.70	0.47	0.56	0.51	0.36	0.36	0.60	0.49	0.58	0.42	0.74	0.56	0.45	0.42	0.62	0.46
60	0.77	0.54	0.68	0.42	0.55	0.45	0.72	0.42	0.60	0.46	0.59	0.48	0.72	0.49	0.52	0.27	0.71	0.56	0.67	0.58
61	0.64	0.47	0.61	0.60	0.47	0.49	0.51	0.49	0.86	0.46	0.64	0.60	0.49	0.51	0.54	0.28	0.67	0.45	0.69	0.57
62	0.65	0.44	0.67	0.58	0.53	0.47	0.54	0.42	0.56	0.47	0.60	0.49	0.64	0.47	0.81	0.50	0.73	0.39	0.46	0.52
63	0.67	0.56	0.48	0.43	0.49	0.52	0.85	0.41	0.52	0.46	0.42	0.28	0.46	0.29	0.62	0.45	0.45	0.43	0.50	0.52
64	0.70	0.55	0.76	0.47	0.54	0.34	0.51	0.39	0.55	0.31	0.52	0.36	0.50	0.51	0.63	0.36	0.62	0.41	0.70	0.49
65	0.54	0.51	0.59	0.40	0.72	0.53	0.77	0.51	0.58	0.37	0.40	0.38	0.46	0.34	0.50	0.46	0.55	0.42	0.69	0.59
66					0.76	0.55	0.76	0.42	0.71	0.62	0.50	0.32	0.50	0.41	0.73	0.56	0.56	0.42	0.69	0.59
67					0.58	0.56	0.40	0.34	0.68	0.56	0.43	0.35	0.63	0.39	0.59	0.53	0.48	0.32	0.49	0.38
68					0.50	0.40	0.85	0.47	0.60	0.53	0.69	0.48	0.54	0.36	0.59	0.44	0.51	0.40	0.46	0.49
69					0.74	0.52	0.82	0.52	0.73	0.41	0.51	0.40	0.72	0.50	0.76	0.42	0.53	0.34	0.70	0.56
70					0.73	0.53	0.50	0.37	0.84	0.50	0.31	0.39	0.63	0.46	0.60	0.59	0.78	0.55	0.63	0.65
71					0.61	0.52	0.57	0.44	0.47	0.42	0.74	0.54	0.66	0.53	0.55	0.41	0.55	0.46	0.51	0.50
72					0.30	0.18	0.90	0.42	0.72	0.48	0.75	0.53	0.73	0.46	0.62	0.53	0.76	0.56	0.66	0.48
73					0.53	0.44	0.64	0.37	0.58	0.48	0.60	0.48	0.76	0.56	0.40	0.26	0.56	0.26	0.66	0.52
74					0.35	0.30	0.47	0.43	0.78	0.48	0.75	0.47	0.34	0.23	0.70	0.56	0.62	0.48	0.73	0.57
75					0.43	0.42	0.57	0.47	0.75	0.46	0.49	0.38	0.71	0.39	0.69	0.53	0.68	0.40	0.60	0.46

Table 7.A.2: Item-by-item p-value and Point-Biserial for History-Social Science

Item-by-item p-value and Point-Biserial for History-Social Science						
Tests	**8**		**10**		**11**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
1	0.40	0.39	0.47	0.22	0.40	0.47
2	0.79	0.29	0.60	0.37	0.34	0.35
3	0.22	0.35	0.44	0.37	0.45	0.22
4	0.49	0.45	0.72	0.48	0.64	0.35
5	0.77	0.31	0.50	0.41	0.57	0.52
6	0.52	0.42	0.48	0.28	0.49	0.45
7	0.54	0.46	0.49	0.44	0.44	0.41
8	0.45	0.27	0.50	0.50	0.35	0.37
9	0.41	0.32	0.54	0.46	0.69	0.37
10	0.22	0.24	0.49	0.35	0.53	0.36
11	0.38	0.41	0.55	0.46	0.45	0.37
12	0.43	0.35	0.46	0.35	0.45	0.42
13	0.51	0.35	0.59	0.46	0.38	0.32
14	0.49	0.34	0.67	0.57	0.34	0.31
15	0.45	0.24	0.61	0.44	0.57	0.42
16	0.42	0.22	0.61	0.49	0.40	0.36
17	0.43	0.39	0.64	0.47	0.82	0.41
18	0.64	0.49	0.58	0.36	0.40	0.22
19	0.65	0.48	0.60	0.44	0.41	0.30
20	0.32	0.22	0.58	0.46	0.62	0.53
21	0.53	0.26	0.36	0.25	0.68	0.51
22	0.33	0.29	0.54	0.39	0.57	0.35
23	0.38	0.25	0.69	0.49	0.55	0.39
24	0.59	0.45	0.54	0.38	0.58	0.47
25	0.48	0.42	0.52	0.49	0.55	0.54
26	0.57	0.44	0.42	0.53	0.58	0.45
27	0.48	0.39	0.46	0.42	0.54	0.39
28	0.51	0.46	0.80	0.45	0.54	0.36
29	0.41	0.27	0.62	0.45	0.49	0.36
30	0.58	0.42	0.33	0.29	0.30	0.17
31	0.37	0.41	0.40	0.26	0.42	0.31
32	0.37	0.28	0.54	0.37	0.36	0.33
33	0.34	0.27	0.50	0.37	0.71	0.43
34	0.44	0.37	0.52	0.53	0.40	0.29
35	0.54	0.37	0.48	0.26	0.53	0.50
36	0.28	0.19	0.41	0.30	0.68	0.55
37	0.72	0.44	0.38	0.23	0.66	0.48
38	0.29	0.31	0.39	0.35	0.56	0.61
39	0.34	0.34	0.46	0.42	0.61	0.47
40	0.36	0.29	0.38	0.21	0.48	0.44
41	0.43	0.43	0.39	0.38	0.40	0.45
42	0.75	0.39	0.46	0.43	0.51	0.43

Item-by-item p-value and Point-Biserial for History-Social Science						
Tests	**8**		**10**		**11**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
43	0.43	0.44	0.62	0.43	0.29	0.39
44	0.66	0.39	0.43	0.28	0.56	0.52
45	0.55	0.45	0.70	0.52	0.40	0.27
46	0.60	0.42	0.34	0.33	0.43	0.55
47	0.52	0.37	0.40	0.42	0.52	0.44
48	0.38	0.35	0.71	0.54	0.75	0.55
49	0.39	0.27	0.56	0.43	0.52	0.48
50	0.28	0.28	0.36	0.27	0.49	0.36
51	0.75	0.44	0.44	0.33	0.54	0.52
52	0.53	0.50	0.39	0.32	0.59	0.47
53	0.34	0.39	0.42	0.40	0.43	0.42
54	0.40	0.30	0.39	0.31	0.44	0.40
55	0.45	0.44	0.54	0.53	0.42	0.35
56	0.44	0.42	0.52	0.54	0.39	0.29
57	0.58	0.32	0.26	0.27	0.31	0.24
58	0.50	0.49	0.39	0.33	0.40	0.29
59	0.31	0.21	0.32	0.18	0.61	0.55
60	0.47	0.51	0.73	0.52	0.50	0.43
61	0.72	0.48				
62	0.45	0.48				
63	0.54	0.53				
64	0.62	0.46				
65	0.49	0.40				
66	0.63	0.47				
67	0.35	0.38				
68	0.57	0.47				
69	0.46	0.32				
70	0.65	0.52				
71	0.54	0.28				
72	0.33	0.18				
73	0.46	0.33				
74	0.38	0.32				
75	0.40	0.31				

Table 7.A.3: Item-by-item p-value and Point-Biserial for Mathematics

Item-by-item p-value and Point-Biserial for Mathematics														
Tests	**2**		**3**		**4**		**5**		**6**		**7**		**Gen Math**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
1	0.82	0.46	0.84	0.49	0.92	0.33	0.79	0.41	0.79	0.33	0.89	0.34	0.73	0.44
2	0.88	0.39	0.72	0.50	0.89	0.44	0.74	0.45	0.83	0.46	0.61	0.41	0.64	0.44
3	0.81	0.45	0.76	0.39	0.72	0.49	0.60	0.56	0.33	0.46	0.35	0.39	0.42	0.28
4	0.59	0.52	0.79	0.38	0.63	0.47	0.56	0.59	0.77	0.45	0.35	0.37	0.58	0.24
5	0.68	0.40	0.86	0.27	0.46	0.35	0.36	0.37	0.72	0.39	0.46	0.31	0.34	0.32
6	0.76	0.50	0.68	0.52	0.77	0.37	0.70	0.43	0.56	0.46	0.62	0.50	0.51	0.41
7	0.87	0.44	0.84	0.51	0.77	0.41	0.59	0.46	0.73	0.48	0.63	0.32	0.59	0.45
8	0.78	0.41	0.81	0.47	0.63	0.54	0.76	0.54	0.60	0.50	0.79	0.35	0.32	0.32
9	0.44	0.44	0.74	0.50	0.75	0.56	0.46	0.32	0.62	0.32	0.51	0.54	0.58	0.46
10	0.89	0.38	0.78	0.43	0.83	0.40	0.55	0.50	0.61	0.50	0.49	0.38	0.40	0.38
11	0.75	0.45	0.77	0.53	0.64	0.55	0.23	0.38	0.73	0.54	0.71	0.51	0.47	0.47
12	0.63	0.57	0.71	0.48	0.64	0.49	0.42	0.43	0.42	0.39	0.61	0.42	0.30	0.13
13	0.80	0.47	0.63	0.58	0.78	0.50	0.73	0.39	0.62	0.38	0.43	0.43	0.42	0.43
14	0.71	0.46	0.61	0.43	0.63	0.50	0.69	0.43	0.71	0.43	0.64	0.52	0.82	0.40
15	0.70	0.47	0.69	0.54	0.72	0.44	0.52	0.58	0.58	0.46	0.35	0.37	0.49	0.40
16	0.80	0.43	0.37	0.24	0.43	0.37	0.42	0.54	0.60	0.35	0.46	0.43	0.23	0.36
17	0.74	0.31	0.50	0.51	0.90	0.43	0.74	0.35	0.55	0.38	0.49	0.41	0.44	0.29
18	0.69	0.47	0.68	0.48	0.94	0.32	0.71	0.47	0.41	0.46	0.47	0.40	0.49	0.40
19	0.56	0.51	0.87	0.49	0.74	0.39	0.77	0.45	0.61	0.48	0.41	0.44	0.35	0.33
20	0.71	0.50	0.49	0.48	0.75	0.56	0.61	0.43	0.54	0.58	0.49	0.39	0.50	0.54
21	0.80	0.48	0.70	0.48	0.67	0.61	0.58	0.50	0.62	0.44	0.40	0.32	0.45	0.37
22	0.68	0.51	0.87	0.44	0.73	0.52	0.50	0.64	0.71	0.56	0.57	0.58	0.53	0.55
23	0.52	0.46	0.69	0.32	0.73	0.54	0.34	0.45	0.58	0.47	0.37	0.28	0.27	0.15
24	0.86	0.39	0.62	0.37	0.60	0.42	0.65	0.44	0.69	0.45	0.67	0.43	0.56	0.39
25	0.81	0.54	0.76	0.53	0.67	0.53	0.57	0.54	0.56	0.44	0.60	0.48	0.66	0.40
26	0.65	0.44	0.66	0.50	0.84	0.50	0.56	0.63	0.82	0.46	0.64	0.45	0.61	0.53
27	0.90	0.41	0.75	0.46	0.47	0.51	0.66	0.51	0.58	0.45	0.47	0.38	0.42	0.31
28	0.83	0.47	0.71	0.51	0.63	0.52	0.67	0.53	0.51	0.45	0.40	0.26	0.75	0.49
29	0.81	0.51	0.71	0.51	0.62	0.58	0.73	0.48	0.66	0.40	0.64	0.56	0.57	0.32
30	0.56	0.44	0.35	0.31	0.79	0.50	0.80	0.46	0.76	0.50	0.32	0.35	0.44	0.45
31	0.52	0.42	0.66	0.52	0.90	0.30	0.60	0.51	0.59	0.41	0.57	0.33	0.67	0.54
32	0.75	0.55	0.68	0.55	0.75	0.58	0.68	0.47	0.69	0.44	0.62	0.45	0.46	0.29
33	0.77	0.52	0.83	0.48	0.59	0.38	0.40	0.38	0.53	0.41	0.71	0.52	0.42	0.27
34	0.84	0.34	0.71	0.57	0.73	0.52	0.52	0.50	0.44	0.41	0.73	0.45	0.44	0.43
35	0.80	0.47	0.84	0.43	0.83	0.54	0.66	0.55	0.45	0.49	0.30	0.25	0.34	0.22
36	0.69	0.56	0.66	0.53	0.75	0.54	0.73	0.45	0.71	0.54	0.55	0.55	0.22	0.19
37	0.76	0.40	0.73	0.55	0.85	0.40	0.34	0.32	0.65	0.53	0.58	0.50	0.72	0.49
38	0.55	0.52	0.66	0.54	0.41	0.33	0.89	0.38	0.74	0.50	0.63	0.50	0.15	0.05
39	0.80	0.45	0.90	0.44	0.75	0.54	0.77	0.49	0.65	0.50	0.62	0.54	0.72	0.47
40	0.95	0.23	0.42	0.32	0.61	0.40	0.58	0.56	0.78	0.56	0.74	0.49	0.52	0.51
41	0.52	0.26	0.60	0.44	0.70	0.40	0.54	0.55	0.79	0.51	0.75	0.46	0.47	0.33
42	0.75	0.44	0.73	0.47	0.69	0.51	0.81	0.39	0.47	0.26	0.27	0.26	0.31	0.20

Item-by-item p-value and Point-Biserial for Mathematics														
Tests	**2**		**3**		**4**		**5**		**6**		**7**		**Gen Math**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
43	0.59	0.51	0.65	0.44	0.78	0.57	0.62	0.34	0.57	0.42	0.77	0.53	0.23	0.37
44	0.60	0.51	0.68	0.36	0.79	0.56	0.69	0.46	0.88	0.39	0.37	0.17	0.64	0.41
45	0.76	0.36	0.86	0.33	0.79	0.59	0.43	0.45	0.56	0.33	0.64	0.51	0.70	0.58
46	0.75	0.54	0.66	0.42	0.77	0.65	0.62	0.51	0.54	0.38	0.53	0.56	0.33	0.16
47	0.79	0.40	0.56	0.45	0.76	0.61	0.56	0.27	0.59	0.30	0.73	0.50	0.36	0.22
48	0.90	0.42	0.58	0.38	0.68	0.58	0.68	0.51	0.56	0.49	0.65	0.48	0.44	0.55
49	0.72	0.37	0.97	0.32	0.82	0.54	0.67	0.41	0.41	0.38	0.42	0.30	0.51	0.39
50	0.67	0.54	0.93	0.31	0.80	0.40	0.64	0.49	0.60	0.41	0.58	0.48	0.52	0.42
51	0.88	0.35	0.42	0.51	0.58	0.30	0.64	0.43	0.53	0.42	0.32	0.30	0.31	0.24
52	0.77	0.21	0.85	0.36	0.50	0.48	0.77	0.39	0.50	0.36	0.54	0.37	0.38	0.27
53	0.40	0.45	0.68	0.29	0.59	0.42	0.67	0.39	0.55	0.33	0.48	0.35	0.33	0.19
54	0.56	0.48	0.83	0.45	0.53	0.39	0.49	0.45	0.50	0.45	0.50	0.35	0.47	0.25
55	0.72	0.41	0.90	0.39	0.61	0.48	0.52	0.55	0.47	0.42	0.49	0.42	0.43	0.30
56	0.87	0.40	0.63	0.40	0.82	0.39	0.69	0.42	0.64	0.42	0.59	0.39	0.36	0.31
57	0.95	0.19	0.82	0.46	0.63	0.44	0.51	0.42	0.54	0.44	0.46	0.57	0.62	0.34
58	0.85	0.38	0.48	0.38	0.66	0.47	0.43	0.47	0.72	0.54	0.56	0.49	0.29	0.21
59	0.41	0.46	0.50	0.35	0.70	0.46	0.74	0.47	0.48	0.51	0.51	0.34	0.48	0.33
60	0.74	0.53	0.90	0.43	0.68	0.45	0.35	0.39	0.33	0.45	0.56	0.49	0.39	0.36
61	0.68	0.49	0.57	0.45	0.51	0.36	0.48	0.48	0.61	0.48	0.47	0.45	0.63	0.50
62	0.89	0.47	0.95	0.25	0.39	0.29	0.79	0.51	0.43	0.46	0.63	0.53	0.62	0.40
63	0.88	0.41	0.80	0.44	0.81	0.58	0.73	0.39	0.42	0.35	0.60	0.47	0.34	0.24
64	0.41	0.40	0.77	0.47	0.77	0.49	0.71	0.45	0.65	0.55	0.65	0.48	0.56	0.47
65	0.87	0.44	0.87	0.46	0.89	0.46	0.86	0.45	0.70	0.57	0.51	0.46	0.58	0.44

Table 7.A.3: Item-by-item p-value and Point-Biserial for Mathematics [continued]

Item-by-item p-value and Point-Biserial for Mathematics [continued]														
Tests	**Algeb I**		**Geom**		**Algeb II**		**HS Math**		**Integ M. 1**		**Integ M. 2**		**Integ M. 3**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
1	0.72	0.38	0.56	0.33	0.42	0.36	0.94	0.34	0.54	0.39	0.48	0.51	0.52	0.25
2	0.60	0.35	0.35	0.46	0.49	0.50	0.77	0.42	0.59	0.35	0.78	0.43	0.80	0.27
3	0.62	0.41	0.45	0.30	0.42	0.28	0.89	0.39	0.61	0.41	0.52	0.22	0.74	0.37
4	0.37	0.20	0.50	0.36	0.42	0.47	0.85	0.30	0.52	0.37	0.73	0.36	0.88	0.40
5	0.80	0.31	0.30	0.28	0.81	0.34	0.66	0.29	0.51	0.37	0.48	0.30	0.77	0.36
6	0.52	0.35	0.62	0.48	0.79	0.40	0.96	0.33	0.45	0.40	0.39	0.25	0.81	0.36
7	0.43	0.49	0.52	0.52	0.24	0.45	0.69	0.47	0.50	0.35	0.43	0.32	0.47	0.31
8	0.41	0.25	0.67	0.32	0.50	0.44	0.64	0.51	0.39	0.47	0.39	0.30	0.38	0.38
9	0.50	0.35	0.50	0.34	0.63	0.44	0.69	0.46	0.42	0.41	0.33	0.37	0.70	0.42
10	0.42	0.45	0.47	0.33	0.58	0.47	0.60	0.39	0.73	0.37	0.23	0.26	0.42	0.28
11	0.51	0.44	0.42	0.38	0.80	0.31	0.54	0.48	0.31	0.23	0.44	0.45	0.40	0.34
12	0.53	0.46	0.61	0.50	0.80	0.36	0.87	0.37	0.36	0.41	0.17	0.04	0.36	0.39
13	0.57	0.33	0.65	0.50	0.60	0.33	0.68	0.51	0.51	0.47	0.34	0.36	0.70	0.42
14	0.50	0.36	0.29	0.20	0.34	0.41	0.65	0.43	0.50	0.41	0.63	0.38	0.55	0.42
15	0.56	0.49	0.83	0.31	0.63	0.43	0.75	0.40	0.44	0.28	0.78	0.35	0.41	0.46
16	0.37	0.35	0.42	0.42	0.56	0.50	0.32	0.39	0.44	0.38	0.55	0.40	0.54	0.44
17	0.51	0.42	0.57	0.51	0.49	0.40	0.75	0.46	0.35	0.35	0.51	0.43	0.57	0.34
18	0.41	0.38	0.62	0.51	0.71	0.37	0.68	0.46	0.32	0.34	0.17	0.09	0.33	0.39
19	0.51	0.35	0.83	0.32	0.55	0.47	0.75	0.30	0.51	0.32	0.18	0.16	0.79	0.33
20	0.55	0.31	0.52	0.31	0.55	0.27	0.77	0.47	0.45	0.27	0.36	0.27	0.39	0.34
21	0.33	0.28	0.57	0.29	0.30	0.28	0.70	0.47	0.42	0.41	0.54	0.21	0.16	0.29
22	0.51	0.31	0.65	0.56	0.44	0.47	0.72	0.42	0.36	0.29	0.43	0.20	0.52	0.42
23	0.37	0.50	0.51	0.53	0.54	0.40	0.91	0.28	0.45	0.33	0.59	0.49	0.73	0.44
24	0.46	0.38	0.47	0.32	0.47	0.27	0.33	0.48	0.46	0.29	0.32	0.17	0.25	0.33
25	0.46	0.37	0.72	0.31	0.29	0.33	0.85	0.42	0.31	0.19	0.51	0.51	0.24	0.36
26	0.43	0.46	0.51	0.35	0.43	0.31	0.91	0.32	0.29	0.30	0.77	0.38	0.51	0.41
27	0.36	0.34	0.57	0.46	0.69	0.36	0.57	0.46	0.44	0.28	0.58	0.54	0.69	0.41
28	0.39	0.28	0.46	0.47	0.54	0.28	0.65	0.36	0.31	0.17	0.45	0.45	0.52	0.31
29	0.53	0.35	0.55	0.43	0.48	0.33	0.87	0.41	0.27	0.31	0.47	0.44	0.62	0.33
30	0.29	0.32	0.35	0.48	0.46	0.29	0.90	0.31	0.35	0.28	0.54	0.46	0.29	0.16
31	0.54	0.38	0.44	0.47	0.40	0.52	0.82	0.38	0.35	0.19	0.40	0.36	0.58	0.32
32	0.35	0.41	0.67	0.40	0.54	0.37	0.64	0.31	0.34	0.26	0.38	0.38	0.42	0.32
33	0.39	0.36	0.52	0.55	0.53	0.42	0.59	0.44	0.26	0.20	0.52	0.31	0.44	0.26
34	0.39	0.44	0.53	0.48	0.64	0.37	0.66	0.46	0.53	0.32	0.42	0.30	0.30	0.28
35	0.35	0.26	0.53	0.24	0.70	0.45	0.89	0.28	0.52	0.38	0.51	0.48	0.44	0.39
36	0.12	0.08	0.62	0.50	0.48	0.39	0.75	0.46	0.23	0.16	0.74	0.37	0.61	0.32
37	0.60	0.37	0.48	0.37	0.48	0.26	0.54	0.37	0.52	0.46	0.46	0.51	0.49	0.31
38	0.24	0.25	0.60	0.46	0.64	0.34	0.62	0.46	0.45	0.46	0.38	0.42	0.44	0.33
39	0.63	0.40	0.45	0.37	0.41	0.47	0.52	0.43	0.28	0.05	0.27	0.26	0.50	0.26
40	0.41	0.31	0.45	0.55	0.55	0.46	0.55	0.42	0.25	0.30	0.39	0.31	0.59	0.41
41	0.12	0.04	0.42	0.44	0.58	0.40	0.49	0.37	0.21	0.10	0.45	0.45	0.38	0.30
42	0.62	0.47	0.46	0.30	0.60	0.34	0.75	0.43	0.24	0.23	0.45	0.27	0.51	0.28

Item-by-item p-value and Point-Biserial for Mathematics [continued]

Tests	Algeb I		Geom		Algeb II		HS Math		Integ M. 1		Integ M. 2		Integ M. 3	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
43	0.59	0.33	0.66	0.55	0.70	0.44	0.54	0.49	0.29	0.18	0.49	0.23	0.59	0.32
44	0.34	0.32	0.53	0.43	0.39	0.37	0.68	0.43	0.28	0.31	0.37	0.15	0.38	0.42
45	0.28	0.16	0.46	0.28	0.58	0.46	0.53	0.45	0.32	0.22	0.56	0.49	0.62	0.34
46	0.40	0.38	0.65	0.50	0.68	0.47	0.65	0.32	0.34	0.17	0.37	0.27	0.64	0.40
47	0.29	0.29	0.64	0.40	0.53	0.47	0.59	0.34	0.34	0.28	0.43	0.34	0.53	0.39
48	0.50	0.46	0.54	0.34	0.54	0.47	0.65	0.48	0.28	0.23	0.35	0.18	0.64	0.41
49	0.65	0.38	0.60	0.57	0.65	0.44	0.44	0.31	0.41	0.19	0.58	0.51	0.48	0.43
50	0.34	0.21	0.57	0.52	0.51	0.38	0.48	0.36	0.50	0.30	0.38	0.23	0.37	0.37
51	0.42	0.22	0.42	0.31	0.64	0.42	0.61	0.46	0.31	0.06	0.34	0.27	0.59	0.43
52	0.38	0.30	0.54	0.43	0.42	0.37	0.77	0.48	0.37	0.26	0.58	0.55	0.65	0.50
53	0.40	0.32	0.63	0.52	0.66	0.46	0.77	0.46	0.35	0.24	0.54	0.33	0.46	0.47
54	0.28	0.37	0.53	0.42	0.22	0.16	0.70	0.45	0.26	0.19	0.49	0.32	0.48	0.37
55	0.35	0.24	0.46	0.29	0.43	0.42	0.34	0.42	0.36	0.21	0.64	0.53	0.53	0.45
56	0.32	0.24	0.55	0.59	0.42	0.42	0.67	0.45	0.47	0.37	0.37	0.22	0.43	0.38
57	0.32	0.22	0.55	0.41	0.50	0.31	0.57	0.55	0.44	0.24	0.33	0.33	0.55	0.43
58	0.35	0.33	0.65	0.37	0.33	0.38	0.70	0.52	0.28	0.39	0.51	0.41	0.37	0.29
59	0.31	0.40	0.28	0.38	0.27	0.31	0.63	0.46	0.23	0.28	0.44	0.36	0.41	0.40
60	0.35	0.26	0.75	0.51	0.30	0.28	0.67	0.40	0.35	0.30	0.26	0.33	0.47	0.44
61	0.25	0.22	0.52	0.40	0.25	0.28	0.57	0.43	0.35	0.30	0.54	0.47	0.43	0.30
62	0.21	0.22	0.46	0.38	0.18	0.32	0.79	0.39	0.38	0.31	0.42	0.25	0.58	0.30
63	0.26	0.14	0.61	0.46	0.52	0.31	0.38	0.22	0.21	0.31	0.16	0.23	0.36	0.39
64	0.18	0.00	0.44	0.45	0.54	0.32	0.81	0.44	0.38	0.26	0.52	0.35	0.27	0.18
65	0.52	0.42					0.75	0.46					0.32	0.32

Table 7.A.4: Item-by-item p-value and Point-Biserial for Mathematics Grade-specific CSTs

Item-by-item p-value and Point-Biserial for Mathematics Grade-specific CSTs								
CSTs	**Algebra I**		**Geometry**		**Algebra II**		**Summative High School Math**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
1	0.78	0.42	0.65	0.36	0.46	0.37	0.93	0.34
2	0.68	0.40	0.48	0.49	0.56	0.49	0.76	0.42
3	0.66	0.47	0.53	0.34	0.45	0.30	0.88	0.39
4	0.40	0.26	0.60	0.37	0.48	0.46	0.85	0.30
5	0.83	0.33	0.36	0.30	0.86	0.31	0.65	0.28
6	0.58	0.41	0.75	0.45	0.84	0.37	0.95	0.33
7	0.49	0.55	0.68	0.46	0.28	0.48	0.67	0.46
8	0.46	0.26	0.74	0.30	0.56	0.44	0.62	0.51
9	0.56	0.40	0.59	0.34	0.70	0.42	0.68	0.46
10	0.52	0.49	0.56	0.39	0.64	0.47	0.58	0.39
11	0.58	0.49	0.53	0.38	0.85	0.27	0.52	0.48
12	0.60	0.52	0.74	0.49	0.85	0.31	0.86	0.38
13	0.63	0.34	0.78	0.48	0.65	0.31	0.67	0.51
14	0.60	0.36	0.33	0.28	0.39	0.43	0.64	0.43
15	0.62	0.55	0.89	0.24	0.69	0.41	0.74	0.40
16	0.46	0.42	0.53	0.43	0.63	0.49	0.30	0.37
17	0.61	0.46	0.71	0.52	0.55	0.38	0.74	0.46
18	0.49	0.43	0.76	0.50	0.75	0.34	0.66	0.46
19	0.58	0.40	0.88	0.25	0.62	0.45	0.74	0.30
20	0.61	0.35	0.60	0.30	0.58	0.26	0.75	0.47
21	0.38	0.35	0.64	0.28	0.33	0.28	0.69	0.47
22	0.56	0.34	0.82	0.51	0.50	0.47	0.71	0.42
23	0.48	0.55	0.66	0.53	0.59	0.40	0.90	0.29
24	0.53	0.44	0.55	0.36	0.51	0.26	0.32	0.47
25	0.54	0.42	0.80	0.27	0.32	0.33	0.84	0.42
26	0.51	0.52	0.62	0.36	0.47	0.32	0.91	0.32
27	0.43	0.38	0.71	0.48	0.74	0.34	0.55	0.45
28	0.45	0.36	0.59	0.50	0.57	0.27	0.64	0.36
29	0.60	0.39	0.67	0.44	0.53	0.34	0.86	0.41
30	0.34	0.40	0.49	0.49	0.50	0.29	0.89	0.31
31	0.62	0.43	0.57	0.50	0.47	0.52	0.81	0.38
32	0.43	0.46	0.78	0.39	0.59	0.35	0.63	0.30
33	0.47	0.45	0.68	0.51	0.59	0.42	0.58	0.44
34	0.49	0.51	0.65	0.50	0.70	0.36	0.64	0.46
35	0.40	0.32	0.59	0.21	0.76	0.44	0.88	0.28
36	0.14	0.20	0.76	0.49	0.52	0.41	0.74	0.46
37	0.66	0.38	0.57	0.39	0.51	0.26	0.53	0.37
38	0.28	0.35	0.73	0.47	0.69	0.32	0.61	0.45
39	0.70	0.43	0.54	0.40	0.47	0.47	0.51	0.43
40	0.49	0.33	0.60	0.54	0.62	0.45	0.53	0.42
41	0.13	0.08	0.54	0.44	0.64	0.38	0.47	0.36
42	0.71	0.50	0.53	0.35	0.65	0.33	0.74	0.44

Item-by-item p-value and Point-Biserial for Mathematics Grade-specific CSTs								
CSTs	**Algebra I**		**Geometry**		**Algebra II**		**Summative High School Math**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
43	0.67	0.35	0.81	0.50	0.76	0.43	0.52	0.49
44	0.41	0.37	0.64	0.43	0.44	0.37	0.67	0.42
45	0.33	0.22	0.53	0.31	0.65	0.44	0.52	0.44
46	0.47	0.46	0.78	0.46	0.75	0.45	0.64	0.32
47	0.36	0.38	0.74	0.40	0.60	0.45	0.58	0.33
48	0.61	0.49	0.63	0.31	0.61	0.44	0.64	0.47
49	0.73	0.37	0.76	0.56	0.71	0.43	0.42	0.30
50	0.38	0.29	0.71	0.50	0.57	0.37	0.46	0.36
51	0.47	0.24	0.51	0.34	0.70	0.40	0.59	0.46
52	0.47	0.39	0.67	0.42	0.48	0.36	0.76	0.47
53	0.47	0.40	0.77	0.48	0.73	0.43	0.75	0.46
54	0.36	0.44	0.64	0.46	0.24	0.18	0.69	0.45
55	0.39	0.30	0.53	0.32	0.48	0.45	0.33	0.41
56	0.37	0.29	0.72	0.57	0.49	0.42	0.65	0.45
57	0.36	0.31	0.66	0.42	0.54	0.31	0.55	0.54
58	0.42	0.41	0.74	0.34	0.37	0.38	0.68	0.52
59	0.40	0.47	0.36	0.41	0.31	0.33	0.62	0.46
60	0.40	0.33	0.87	0.47	0.32	0.30	0.66	0.40
61	0.29	0.34	0.62	0.41	0.27	0.29	0.56	0.43
62	0.25	0.29	0.56	0.43	0.21	0.35	0.78	0.39
63	0.28	0.22	0.74	0.45	0.57	0.29	0.37	0.21
64	0.18	0.05	0.56	0.47	0.58	0.30	0.80	0.44
65	0.63	0.47					0.73	0.45

Table 7.A.5: Item-by-item p-value and Point-Biserial for Science

Item-by-item p-value and Point-Biserial for Science										
CSTs	**Gr. 5 Science**		**Biology**		**Chemistry**		**Earth Science**		**Physics**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
1	0.58	0.38	0.41	0.21	0.72	0.41	0.58	0.30	0.56	0.52
2	0.54	0.31	0.46	0.31	0.48	0.42	0.47	0.29	0.76	0.24
3	0.51	0.34	0.65	0.40	0.50	0.23	0.36	0.32	0.65	0.46
4	0.82	0.41	0.55	0.36	0.76	0.31	0.48	0.23	0.54	0.42
5	0.52	0.35	0.45	0.27	0.50	0.28	0.48	0.29	0.65	0.46
6	0.50	0.38	0.46	0.36	0.50	0.23	0.41	0.19	0.57	0.36
7	0.52	0.36	0.61	0.34	0.52	0.48	0.51	0.36	0.47	0.24
8	0.53	0.48	0.37	0.33	0.50	0.38	0.56	0.43	0.72	0.43
9	0.51	0.39	0.66	0.46	0.57	0.34	0.53	0.48	0.61	0.49
10	0.40	0.26	0.63	0.49	0.59	0.28	0.47	0.25	0.62	0.39
11	0.56	0.32	0.35	0.18	0.47	0.37	0.46	0.31	0.46	0.29
12	0.38	0.31	0.61	0.37	0.58	0.39	0.41	0.24	0.61	0.39
13	0.60	0.39	0.54	0.39	0.71	0.47	0.45	0.29	0.58	0.35
14	0.46	0.37	0.42	0.27	0.46	0.43	0.46	0.33	0.39	0.37
15	0.45	0.26	0.48	0.39	0.78	0.48	0.48	0.26	0.50	0.38
16	0.33	0.25	0.54	0.40	0.44	0.37	0.35	0.36	0.44	0.60
17	0.43	0.25	0.33	0.39	0.58	0.37	0.58	0.47	0.52	0.40
18	0.60	0.35	0.32	0.25	0.53	0.26	0.65	0.42	0.38	0.22
19	0.66	0.43	0.66	0.47	0.49	0.47	0.56	0.53	0.59	0.31
20	0.51	0.45	0.45	0.38	0.53	0.50	0.52	0.43	0.47	0.59
21	0.37	0.36	0.52	0.53	0.58	0.22	0.49	0.48	0.53	0.42
22	0.52	0.31	0.52	0.43	0.36	0.40	0.68	0.39	0.44	0.41
23	0.63	0.52	0.41	0.25	0.41	0.26	0.61	0.50	0.78	0.45
24	0.70	0.45	0.43	0.45	0.63	0.48	0.39	0.28	0.51	0.45
25	0.44	0.31	0.65	0.45	0.52	0.28	0.49	0.42	0.63	0.52
26	0.45	0.32	0.56	0.40	0.61	0.36	0.45	0.39	0.45	0.37
27	0.51	0.40	0.55	0.41	0.63	0.46	0.69	0.47	0.40	0.30
28	0.51	0.37	0.56	0.33	0.49	0.35	0.51	0.48	0.47	0.33
29	0.50	0.23	0.63	0.47	0.60	0.41	0.40	0.38	0.72	0.39
30	0.61	0.40	0.37	0.30	0.40	0.32	0.57	0.48	0.36	0.34
31	0.51	0.43	0.50	0.36	0.46	0.37	0.43	0.39	0.58	0.41
32	0.59	0.27	0.52	0.35	0.55	0.42	0.38	0.25	0.37	0.22
33	0.59	0.34	0.69	0.40	0.57	0.36	0.43	0.29	0.46	0.32
34	0.62	0.35	0.46	0.47	0.64	0.43	0.56	0.36	0.57	0.42
35	0.52	0.35	0.50	0.34	0.49	0.34	0.66	0.54	0.56	0.54
36	0.47	0.29	0.52	0.43	0.49	0.50	0.54	0.40	0.62	0.43
37	0.45	0.20	0.54	0.53	0.70	0.42	0.51	0.37	0.40	0.43
38	0.39	0.41	0.39	0.32	0.42	0.36	0.34	0.35	0.45	0.30

Item-by-item p-value and Point-Biserial for Science										
CSTs	**Gr. 5 Science**		**Biology**		**Chemistry**		**Earth Science**		**Physics**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
39	0.39	0.26	0.51	0.48	0.54	0.36	0.41	0.43	0.52	0.43
40	0.44	0.34	0.44	0.29	0.48	0.25	0.41	0.38	0.67	0.50
41	0.40	0.37	0.64	0.32	0.38	0.41	0.44	0.44	0.44	0.40
42	0.46	0.47	0.57	0.39	0.30	0.25	0.54	0.47	0.55	0.47
43	0.69	0.38	0.36	0.33	0.46	0.35	0.48	0.48	0.45	0.53
44	0.24	0.27	0.57	0.41	0.48	0.22	0.39	0.23	0.42	0.32
45	0.43	0.34	0.55	0.51	0.40	0.38	0.54	0.42	0.51	0.48
46	0.39	0.41	0.54	0.41	0.46	0.29	0.24	0.15	0.51	0.47
47	0.66	0.34	0.49	0.44	0.71	0.51	0.40	0.23	0.56	0.27
48	0.40	0.31	0.50	0.38	0.58	0.41	0.36	0.23	0.42	0.28
49	0.44	0.42	0.68	0.36	0.48	0.51	0.32	0.26	0.58	0.49
50	0.66	0.47	0.60	0.49	0.49	0.55	0.66	0.59	0.34	0.32
51	0.43	0.38	0.56	0.33	0.26	0.28	0.43	0.34	0.42	0.33
52	0.38	0.19	0.46	0.39	0.42	0.27	0.38	0.24	0.44	0.36
53	0.51	0.38	0.48	0.47	0.56	0.51	0.46	0.46	0.48	0.41
54	0.46	0.39	0.41	0.28	0.42	0.32	0.46	0.40	0.50	0.52
55	0.52	0.38	0.60	0.47	0.50	0.41	0.35	0.30	0.45	0.41
56	0.42	0.43	0.51	0.47	0.39	0.37	0.50	0.43	0.59	0.45
57	0.58	0.54	0.40	0.29	0.60	0.44	0.41	0.45	0.45	0.51
58	0.51	0.35	0.71	0.42	0.50	0.48	0.49	0.53	0.65	0.43
59	0.46	0.41	0.53	0.34	0.73	0.45	0.45	0.43	0.50	0.34
60	0.60	0.26	0.57	0.44	0.52	0.31	0.52	0.51	0.41	0.45
61	0.62	0.35	0.46	0.47	0.64	0.43	0.56	0.36	0.57	0.42
62	0.52	0.35	0.50	0.34	0.49	0.34	0.66	0.54	0.56	0.54
63	0.47	0.29	0.52	0.43	0.49	0.50	0.54	0.40	0.62	0.43
64	0.45	0.20	0.54	0.53	0.70	0.42	0.51	0.37	0.40	0.43
65	0.39	0.41	0.39	0.32	0.42	0.36	0.34	0.35	0.45	0.30

Table 7.A.5: Item-by-item p-value and Point-Biserial for Science [continued]

Item-by-item p-value and Point-Biserial for Science [continued]								
CSTs	**Integ Science 1**		**Integ Science 2**		**Integ Science 3**		**Integ Science 4**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
1	0.32	0.39	0.21	0.18	0.45	0.31	0.65	0.42
2	0.45	0.31	0.48	0.23	0.34	0.27	0.67	0.44
3	0.49	0.29	0.63	0.19	0.38	0.25	0.58	0.30
4	0.48	0.35	0.40	0.31	0.45	0.37	0.45	0.52
5	0.44	0.37	0.48	0.39	0.44	0.38	0.54	0.36
6	0.44	0.44	0.35	0.15	0.38	0.27	0.49	0.52
7	0.42	0.23	0.37	0.25	0.44	0.30	0.51	0.36
8	0.34	0.21	0.55	0.33	0.36	0.20	0.25	0.13
9	0.58	0.30	0.28	0.18	0.45	0.29	0.40	0.20
10	0.57	0.44	0.51	0.31	0.50	0.39	0.39	0.38
11	0.45	0.36	0.28	0.21	0.35	0.06	0.55	0.43
12	0.35	0.26	0.35	0.21	0.22	0.13	0.41	0.20
13	0.68	0.46	0.47	0.33	0.35	0.26	0.49	0.44
14	0.67	0.40	0.56	0.43	0.29	0.21	0.34	0.22
15	0.38	0.39	0.56	0.34	0.28	0.37	0.50	0.38
16	0.42	0.27	0.42	0.34	0.46	0.43	0.62	0.56
17	0.48	0.44	0.46	0.16	0.36	0.43	0.57	0.47
18	0.66	0.40	0.48	0.29	0.39	0.26	0.61	0.42
19	0.43	0.34	0.37	0.14	0.29	0.16	0.58	0.53
20	0.40	0.32	0.38	0.33	0.41	0.24	0.62	0.56
21	0.45	0.29	0.36	0.34	0.25	0.06	0.50	0.33
22	0.47	0.25	0.54	0.36	0.56	0.42	0.52	0.47
23	0.29	0.25	0.38	0.16	0.50	0.32	0.63	0.42
24	0.29	0.20	0.59	0.37	0.21	0.21	0.61	0.40
25	0.30	0.13	0.11	0.13	0.39	0.26	0.30	0.18
26	0.29	0.25	0.32	0.18	0.38	0.37	0.44	0.37
27	0.29	0.22	0.11	0.13	0.37	0.28	0.43	0.30
28	0.58	0.41	0.30	0.23	0.51	0.32	0.75	0.38
29	0.42	0.31	0.42	0.29	0.56	0.43	0.71	0.38
30	0.42	0.36	0.36	0.25	0.34	0.17	0.37	0.24
31	0.52	0.31	0.37	0.22	0.45	0.30	0.56	0.45
32	0.47	0.32	0.39	0.18	0.32	0.29	0.52	0.41
33	0.42	0.42	0.37	0.31	0.53	0.38	0.59	0.57
34	0.36	0.23	0.50	0.33	0.28	0.21	0.52	0.43
35	0.43	0.15	0.37	0.21	0.52	0.33	0.51	0.41
36	0.28	0.16	0.33	0.23	0.45	0.45	0.43	0.45
37	0.22	0.20	0.32	0.26	0.19	0.06	0.50	0.29
38	0.24	0.13	0.37	0.38	0.40	0.20	0.36	0.33

Item-by-item p-value and Point-Biserial for Science [continued]								
CSTs	**Integ Science 1**		**Integ Science 2**		**Integ Science 3**		**Integ Science 4**	
Items	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**	**p-value**	**Pt-Rbis**
39	0.33	0.18	0.43	0.37	0.28	0.30	0.36	0.38
40	0.35	0.32	0.46	0.27	0.32	0.14	0.42	0.33
41	0.39	0.22	0.61	0.46	0.25	0.37	0.69	0.48
42	0.31	0.13	0.52	0.38	0.50	0.46	0.64	0.54
43	0.37	0.47	0.43	0.44	0.43	0.33	0.52	0.52
44	0.30	0.23	0.39	0.26	0.27	0.26	0.39	0.47
45	0.40	0.39	0.40	0.28	0.24	0.14	0.58	0.36
46	0.52	0.51	0.41	0.28	0.44	0.43	0.34	0.24
47	0.23	0.02	0.35	0.14	0.30	0.14	0.63	0.48
48	0.65	0.54	0.40	0.32	0.33	0.25	0.54	0.56
49	0.36	0.38	0.46	0.38	0.38	0.21	0.42	0.38
50	0.34	0.31	0.39	0.16	0.19	0.12	0.43	0.31
51	0.39	0.24	0.38	0.21	0.48	0.39	0.54	0.38
52	0.42	0.35	0.35	0.23	0.36	0.32	0.38	0.40
53	0.32	0.32	0.32	0.13	0.46	0.39	0.49	0.46
54	0.44	0.34	0.28	0.25	0.38	0.27	0.36	0.34
55	0.31	0.15	0.38	0.32	0.24	0.19	0.30	0.33
56	0.22	0.17	0.28	0.23	0.31	0.21	0.46	0.36
57	0.26	0.08	0.26	0.19	0.40	0.25	0.45	0.39
58	0.31	0.25	0.49	0.34	0.36	0.23	0.37	0.17
59	0.28	0.33	0.28	0.15	0.25	0.06	0.42	0.21
60	0.29	0.15	0.35	0.15	0.39	0.20	0.36	0.12
61	0.36	0.23	0.50	0.33	0.28	0.21	0.52	0.43
62	0.43	0.15	0.37	0.21	0.52	0.33	0.51	0.41
63	0.28	0.16	0.33	0.23	0.45	0.45	0.43	0.45
64	0.22	0.20	0.32	0.26	0.19	0.06	0.50	0.29
65	0.24	0.13	0.37	0.38	0.40	0.20	0.36	0.33

Appendix 7.B — IRT Tables

Table 7.B.1: IRT b-values for English-Language Arts Grade 2

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	22	-0.32	0.86	-2.29	0.90
Reading Comprehension	15	-0.25	0.49	-0.90	0.74
Literary Response and Analysis	6	-0.02	0.71	-1.11	1.09
Written and Oral Language Conventions	14	-0.16	0.45	-1.02	0.81
Writing Strategies	8	-0.01	0.77	-0.78	1.78
All operational items	65	-0.20	0.70	-2.29	1.78
Field-test items	48	0.03	0.82	-1.74	1.90

Table 7.B.2: IRT b-values for English-Language Arts Grade 3

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	20	-0.66	0.74	-1.75	1.23
Reading Comprehension	15	0.07	0.53	-0.65	1.32
Literary Response and Analysis	8	-0.34	0.94	-2.16	1.24
Written and Oral Language Conventions	13	-0.59	0.67	-1.95	0.42
Writing Strategies	9	0.02	0.58	-0.74	0.92
All operational items	65	-0.35	0.76	-2.16	1.32
Field-test items	24	-0.06	0.76	-1.73	1.11

Table 7.B.3: IRT b-values for English-Language Arts Grade 4

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	18	-0.33	0.77	-2.07	0.87
Reading Comprehension	15	0.00	0.79	-1.19	1.63
Literary Response and Analysis	9	0.15	0.95	-1.04	1.95
Written and Oral Language Conventions	18	-0.01	0.76	-1.53	1.58
Writing Strategies	15	0.50	0.47	-0.62	1.33
Writing Applications	1	0.81	0.00	0.81	0.81
All operational mulitple-choice items	75	0.04	0.80	-2.07	1.95
Field-test items	60	0.61	0.75	-1.02	2.21

Table 7.B.4: IRT b-values for English-Language Arts Grade 5

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	14	-0.28	0.76	-1.69	0.83
Reading Comprehension	16	0.14	0.99	-2.70	1.34
Literary Response and Analysis	12	-0.55	0.73	-1.76	0.47
Written and Oral Language Conventions	17	-0.59	0.95	-2.19	1.84
Writing Strategies	16	0.20	0.47	-0.64	1.04
All operational items	75	-0.20	0.88	-2.70	1.84
Field-test items	36	0.35	0.66	-1.02	1.68

Table 7.B.5: IRT b-values for English-Language Arts Grade 6

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	13	-0.23	0.57	-1.17	0.89
Reading Comprehension	17	0.13	0.40	-0.67	1.09
Literary Response and Analysis	12	0.24	0.64	-0.82	1.15
Written and Oral Language Conventions	16	-0.89	0.60	-2.01	0.13
Writing Strategies	17	0.15	0.58	-0.88	1.31
All operational items	75	-0.13	0.70	-2.01	1.31
Field-test items	71	0.43	0.91	-1.70	2.28

Table 7.B.6: IRT b-values for English-Language Arts Grade 7

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	11	-0.20	0.69	-1.32	0.77
Reading Comprehension	18	-0.13	0.52	-0.98	1.12
Literary Response and Analysis	13	0.72	0.50	-0.04	1.54
Written and Oral Language Conventions	16	0.20	0.59	-0.94	1.08
Writing Strategies	17	0.37	0.68	-1.06	1.62
Writing Applications	1	0.80	0.00	0.80	0.80
All operational mulitple-choice items	75	0.19	0.68	-1.32	1.62
Field-test items	106	0.66	0.76	-0.75	2.74

Table 7.B. 7: IRT b-values for English-Language Arts Grade 8

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	9	-0.15	0.74	-1.23	0.92
Reading Comprehension	18	0.26	0.45	-0.66	0.84
Literary Response and Analysis	15	-0.03	0.58	-1.13	1.03
Written and Oral Language Conventions	16	-0.30	0.81	-1.95	1.11
Writing Strategies	17	-0.32	0.63	-1.77	0.60
All operational items	75	-0.10	0.68	-1.95	1.11
Field-test items	12	0.66	0.75	-0.86	2.04

Table 7.B.8: IRT b-values for English-Language Arts Grade 9

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	8	-0.29	0.59	-1.20	0.89
Reading Comprehension	18	-0.02	0.83	-1.31	1.45
Literary Response and Analysis	16	0.13	0.68	-1.05	1.21
Written and Oral Language Conventions	13	-0.21	0.54	-1.16	1.01
Writing Strategies	20	0.03	0.68	-1.39	1.26
All operational items	75	-0.04	0.70	-1.39	1.45
Field-test items	36	0.49	0.65	-1.17	1.63

Table 7.B.9: IRT b-values for English-Language Arts Grade 10

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	8	-0.91	0.62	-1.80	-0.22
Reading Comprehension	18	-0.31	0.55	-1.66	0.93
Literary Response and Analysis	16	0.00	0.56	-1.22	1.05
Written and Oral Language Conventions	13	-0.40	0.61	-1.32	0.58
Writing Strategies	20	-0.35	0.51	-1.37	0.41
All operational items	75	-0.33	0.61	-1.80	1.05
Field-test items	84	0.44	0.72	-1.32	2.15

Table 7.B.10: IRT b-values for English-Language Arts Grade 11

Content Area	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	8	-0.29	0.53	-1.08	0.50
Reading Comprehension	19	-0.20	0.61	-1.58	0.67
Literary Response and Analysis	17	-0.12	0.62	-1.70	0.91
Written and Oral Language Conventions	9	-0.34	0.47	-1.09	0.36
Writing Strategies	22	-0.25	0.64	-1.25	0.97
All operational items	75	-0.22	0.60	-1.70	0.97
Field-test items	104	0.31	0.57	-1.03	2.02

Table 7.B.11: IRT b-values for History-Social Science Grade 8

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
World History and Geography: Ancient Civilizations	16	0.29	0.75	-1.37	1.61
Late Antiquity and the Middle Ages	14	0.22	0.52	-0.65	1.03
Renaissance/Reformation	10	0.49	0.67	-0.99	1.25
U.S. Constitution and the Early Republic	22	0.13	0.66	-1.11	1.23
Civil War and Its Aftermath	13	0.17	0.48	-0.59	0.94
All operational items	75	0.23	0.64	-1.37	1.61
Field-test items	240	0.80	0.68	-1.85	2.63

Table 7.B.12: IRT b-values for History-Social Science Grade 10

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Development of Modern Political Thought	13	-0.03	0.37	-1.05	0.38
Industrial Expansion and Imperialism	10	-0.16	0.36	-0.56	0.81
Causes and Effects of the First World War	14	0.06	0.59	-1.47	0.69
Causes and Effects of the Second World War	13	0.24	0.63	-0.93	0.96
International Developments in the Post-World War II Era	10	0.36	0.71	-1.04	1.38
All operational items	60	0.09	0.58	-1.47	1.38
Field-test items	210	0.69	0.56	-0.52	2.15

Table 7.B.13: IRT b-values for History-Social Science Grade 11

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Foundations of American Political and Social Thought	10	0.11	0.42	-0.61	0.88
Industrialization and the U.S. Role as a World Power	13	0.10	0.72	-1.62	0.92
United States Between the World Wars	12	0.02	0.58	-0.98	1.12
World War II and Foreign Affairs	12	0.02	0.56	-0.84	1.14
Post-World War II Domestic Issues	13	0.14	0.56	-1.21	1.07
All operational items	60	0.08	0.58	-1.62	1.14
Field-test items	180	0.52	0.63	-1.52	2.07

Table 7.B.14: IRT b-values for Mathematics Grade 2

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Place Value, Addition, and Subtraction	15	-0.72	0.83	-1.79	0.85
Multiplication, Division, and Fractions	23	-1.01	0.81	-2.96	0.43
Algebra and Functions	6	-0.46	0.62	-1.30	0.26
Measurement and Geometry	14	-1.11	0.96	-2.94	0.99
Statistics, Data Analysis, and Probability	7	-0.75	1.24	-2.10	1.01
All operational items	65	-0.89	0.91	-2.96	1.01
Field-test items	30	-1.07	1.65	-3.98	3.63

Table 7.B.15: IRT b-values for Mathematics Grade 3

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Place Value, Fractions and Decimals	16	-0.75	0.86	-1.79	1.44
Addition, Subtraction, Multiplication, and Division	16	-0.29	0.57	-1.24	1.31
Algebra and Functions	12	-0.56	0.77	-2.05	1.05
Measurement and Geometry	16	-0.84	1.26	-3.35	0.95
Statistics, Data Analysis, and Probability	5	-1.28	0.98	-2.83	0.18
All operational items	65	-0.66	0.95	-3.35	1.44
Field-test items	72	-0.63	1.10	-2.79	2.90

Table 7.B.16: IRT b-values for Mathematics Grade 4

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Decimals, Fractions, and Negative Numbers	16	-0.99	1.01	-2.87	0.89
Operations and Factoring	15	-0.60	0.73	-2.22	0.68
Algebra and Functions	18	-0.77	0.63	-1.66	1.09
Measurement and Geometry	12	-0.20	0.61	-1.41	0.57
Statistics, Data Analysis, and Probability	4	-0.83	1.20	-2.06	1.16
All operational items	65	-0.68	0.84	-2.87	1.16
Field-test items	120	0.36	1.05	-2.82	2.79

Table 7.B.17: IRT b-values for Mathematics Grade 5

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Estimation, Percents, and Factoring	12	-0.01	0.88	-1.26	1.97
Operations with Fractions and Decimals	17	-0.23	0.68	-1.08	1.26
Algebra and Functions	17	-0.34	0.85	-2.12	1.25
Measurement and Geometry	15	-0.09	0.65	-1.11	1.22
Statistics, Data Analysis, and Probability	4	-1.18	0.45	-1.86	-0.70
All operational items	65	-0.25	0.80	-2.12	1.97
Field-test items	90	0.59	1.08	-1.70	2.67

Table 7.B.18: IRT b-values for Mathematics Grade 6

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Ratios, Proportions, Percentages, and Negative Fractions	15	-0.40	0.74	-1.75	1.07
Operations and Problem Solving with Fractions	10	-0.50	0.39	-1.28	-0.02
Algebra and Functions	19	-0.60	0.74	-2.18	0.52
Measurement and Geometry	10	0.06	0.26	-0.29	0.67
Statistics, Data Analysis, and Probability	11	-0.05	0.65	-1.00	1.15
All operational items	65	-0.34	0.67	-2.18	1.15
Field-test items	118	0.72	0.86	-1.00	3.31

Table 7.B.19: IRT b-values for Mathematics Grade 7

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Rational Numbers	14	-0.21	0.84	-2.17	1.04
Exponents, Powers, and Roots	8	0.44	0.33	-0.15	1.00
Quantitative Relationships and Evaluating Expressions	10	0.06	0.62	-0.65	1.12
Multi-step Problems, Graphing, and Functions	15	-0.27	0.83	-1.23	1.43
Measurement and Geometry	13	0.14	0.41	-0.54	1.13
Statistics, Data Analysis, and Probability	5	-0.16	0.34	-0.53	0.33
All operational items	65	-0.03	0.69	-2.17	1.43
Field-test items	120	1.01	0.86	-0.83	3.15

Table 7.B.20: IRT b-values for General Mathematics

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Rational Numbers	14	0.04	0.74	-1.62	1.05
Exponents, Powers, and Roots	10	0.43	0.52	-0.17	1.46
Quantitative Relationships and Evaluating Expressions	11	-0.03	0.61	-1.17	0.87
Multi-step Problems, Graphing, and Functions	10	0.30	1.08	-0.96	2.04
Measurement and Geometry	11	0.54	0.34	0.01	1.00
Statistics, Data Analysis, and Probability	9	0.08	0.58	-0.54	1.07
All operational items	65	0.22	0.72	-1.62	2.04
Field-test items	6	1.33	0.71	0.54	2.55

Table 7.B.21: IRT b-values for Algebra I

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Number Properties, Operations, and Linear Equations	17	-0.49	0.57	-1.85	0.50
Graphing and Systems of Linear Equations	14	-0.05	0.41	-0.58	0.74
Quadratics and Polynomials	21	0.20	0.91	-1.14	2.23
Functions and Rational Expressions	13	0.67	0.59	-0.66	1.83
All operational items	65	0.06	0.79	-1.85	2.23
Field-test items	48	0.67	0.63	-0.73	2.13

Table 7.B.22: IRT b-values for Geometry

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Logic and Geometric Proofs	23	-0.80	0.84	-2.54	0.86
Volume and Area Formulas	11	-0.80	0.50	-1.61	0.03
Angle Relationships, Constructions, and Lines	15	-0.80	0.59	-1.85	-0.07
Trigonometry	15	-0.80	0.70	-2.37	0.67
All operational items	64	-0.80	0.70	-2.54	0.86
Field-test items	60	-0.24	0.98	-3.49	2.22

Table 7.B.23: IRT b-values for Algebra II

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Polynomials and Rational Expressions	19	-0.78	0.88	-2.21	1.00
Quadratics, Conics, and Complex Numbers	16	-0.36	0.58	-1.46	0.71
Exponents and Logarithms	15	-0.67	0.46	-1.42	0.17
Series, Combinatorics, and Probability and Statistics	14	0.14	0.82	-1.29	1.37
All operational items	64	-0.45	0.79	-2.21	1.37
Field-test items	72	0.20	1.11	-2.36	3.30

Table 7.B.24: IRT b-values for Summative High School Mathematics

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Algebra I	18	-1.03	1.07	-3.33	1.30
Geometry	19	-1.07	0.95	-2.48	1.13
Algebra II	23	-0.27	0.55	-1.21	1.04
Probability and Statistics	5	-0.61	0.91	-1.47	0.94
All operational items	65	-0.74	0.94	-3.33	1.30
Field-test items	24	0.54	0.77	-0.66	2.11

Table 7.B.25: IRT b-values for Integrated Mathematics 1

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Number Properties, Operations, and Linear Equations	15	-0.50	0.44	-1.53	0.29
Graphing	9	-0.17	0.26	-0.57	0.27
Quadratics and Polynomials	14	0.10	0.48	-0.65	0.79
Functions and Rational Expressions	7	0.63	0.20	0.32	0.94
Geometry	19	0.15	0.37	-0.56	0.89
All operational items	64	0.00	0.52	-1.53	0.94
Field-test items	6	0.33	0.28	-0.03	0.70

Table 7.B.26: IRT b-values for Integrated Mathematics 2

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Algebra I	20	-0.11	0.95	-1.89	1.42
Logic and Geometric Proofs	22	-0.29	0.55	-1.75	0.74
Angle Relationships, Constructions, and Lines	8	-0.13	0.40	-0.77	0.36
Trigonometry	10	-0.17	0.53	-1.06	0.73
Algebra II/Probability and Statistics	4	0.04	0.80	-0.61	1.38
All operational items	64	-0.17	0.70	-1.89	1.42
Field-test items	6	-0.23	0.75	-1.12	1.18

Table 7.B.27: IRT b-values for Integrated Mathematics 3

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Geometry	5	-1.46	0.62	-2.20	-0.35
Polynomials and Rational Expressions	19	-0.14	0.94	-1.81	1.70
Quadratics, Conics, and Complex Numbers	16	-0.10	0.55	-0.93	1.21
Exponents and Logarithms	15	-0.34	0.45	-0.96	0.37
Series, Combinatorics, and Probability and Statistics	10	0.27	0.43	-0.60	0.89
All operational items	65	-0.21	0.77	-2.20	1.70
Field-test items	6	0.56	1.50	-1.86	2.76

Table 7.B.28: IRT b-values for Science Grade 5

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Physical Science Grade 5	11	-0.34	0.63	-1.93	0.62
Physical Science Grade 4	8	-0.19	0.28	-0.67	0.26
Life Science Grade 5	13	-0.25	0.38	-0.94	0.39
Life Science Grade 4	9	-0.37	0.44	-1.20	0.26
Earth Science Grade 5	11	-0.22	0.52	-1.07	0.29
Earth Science Grade 4	8	-0.04	0.53	-0.66	1.11
All operational items	60	-0.24	0.49	-1.93	1.11
Field-test items	210	0.12	0.74	-1.77	2.64

Table 7.B.29: IRT b-values for Biology

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	-0.02	0.50	-0.60	0.84
Cell Biology	9	0.08	0.38	-0.71	0.60
Genetics	18	-0.08	0.49	-0.89	0.79
Ecology and Evolution	16	-0.20	0.34	-1.05	0.45
Physiology	11	-0.50	0.43	-1.14	0.35
All operational items	60	-0.16	0.47	-1.14	0.84
Field-test items	210	0.48	0.66	-1.60	2.16

Table 7.B.30: IRT b-values for Chemistry

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	-0.53	0.11	-0.72	-0.36
Atomic and Molecular Structure	8	-0.38	0.51	-1.36	0.03
Chemical Bonds, Biochemistry	9	-0.11	0.38	-0.73	0.45
Kinetics, Thermodynamics	14	-0.13	0.58	-1.22	0.68
Chemical Reactions	13	0.25	0.48	-0.41	1.26
Conservation of Matter and Stoichiometry	10	-0.30	0.58	-1.52	0.37
All operational items	60	-0.14	0.55	-1.52	1.26
Field-test items	209	0.34	0.77	-2.72	2.45

Table 7.B.31: IRT b-values for Earth Science

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	-0.07	0.39	-0.85	0.29
Astronomy and Cosmology	12	0.13	0.44	-0.69	0.86
Solid Earth	14	0.10	0.57	-0.76	1.41
The Earth's Energy	28	0.32	0.34	-0.47	0.94
All operational items	60	0.19	0.45	-0.85	1.41
Field-test items	264	0.89	0.58	-0.68	2.73

Table 7.B.32: IRT b-values for Physics

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	-0.18	0.49	-0.85	0.59
Motion and Forces	12	-0.46	0.50	-1.38	0.19
Conservation of Energy and Momentum	12	-0.22	0.58	-1.65	0.64
Heat and Thermodynamics	9	-0.35	0.51	-1.17	0.24
Waves	10	0.03	0.33	-0.53	0.62
Electric and Magnetic Phenomena	11	0.01	0.46	-0.99	0.72
All operational items	60	-0.20	0.52	-1.65	0.72
Field-test items	210	0.42	0.76	-1.65	2.67

Table 7.B.33: IRT b-values for Science Grade 8

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Field-test items	210	0.29	0.74	-1.53	2.66

Table 7.B.34: IRT b-values for Life Science

Content Area	Number of items	Mean	Standard Deviation	Minimum	Maximum
Field-test items	210	0.22	0.83	-1.67	2.53

Table 7.B.35: Distribution of IRT b-values for English-Language Arts

IRT b-value	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
>=3.5	0	0	0	0	0	0	0	0	0	0
3.0 - < 3.5	0	0	0	0	0	0	0	0	0	0
2.5 - < 3.0	0	0	0	0	0	0	0	0	0	0
2.0 - < 2.5	0	0	0	0	0	0	0	0	0	0
1.5 - < 2.0	1	0	3	1	0	3	0	0	0	0
1.0 - < 1.5	1	3	2	3	7	8	2	7	1	0
0.5 - < 1.0	7	5	21	11	5	16	15	11	3	9
0.0 - < 0.5	15	15	14	19	19	20	21	17	20	23
-0.5 - < 0.0	23	13	16	15	24	15	18	20	23	18
-1.0 - < -0.5	11	13	12	9	12	12	11	10	17	18
-1.5 - < -1.0	4	12	6	11	5	2	4	10	8	5
-2.0 - < -1.5	1	3	1	4	2	0	4	0	3	2
-2.5 - < -2.0	2	1	1	1	1	0	0	0	0	0
-3.0 - < -2.5	0	0	0	1	0	0	0	0	0	0
-3.5 - < -3.0	0	0	0	0	0	0	0	0	0	0
< -3.5	0	0	0	0	0	0	0	0	0	0
Total	65	65	75	75	75	75	75	75	75	75

Table 7.B.36: Distribution of IRT b-values for History-Social Science

IRT b-value	Grade 8	Grade 10	Grade 11
>=3.5	0	0	0
3.0 - < 3.5	0	0	0
2.5 - < 3.0	0	0	0
2.0 - < 2.5	0	0	0
1.5 - < 2.0	2	0	0
1.0 - < 1.5	5	2	3
0.5 - < 1.0	20	15	15
0.0 - < 0.5	23	18	15
-0.5 - < 0.0	15	17	18
-1.0 - < -0.5	6	5	7
-1.5 - < -1.0	4	3	1
-2.0 - < -1.5	0	0	1
-2.5 - < -2.0	0	0	0
-3.0 - < -2.5	0	0	0
-3.5 - < -3.0	0	0	0
< -3.5	0	0	0
Total	75	60	60

Table 7.B.37: Distribution of IRT b-values for Mathematics Grade 2 through 7

IRT b-value	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
>=3.5	0	0	0	0	0	0
3.0 - < 3.5	0	0	0	0	0	0
2.5 - < 3.0	0	0	0	0	0	0
2.0 - < 2.5	0	0	0	0	0	0
1.5 - < 2.0	0	0	0	1	0	0
1.0 - < 1.5	1	3	2	4	2	6
0.5 - < 1.0	3	5	5	6	6	8
0.0 - < 0.5	9	5	5	13	10	17
-0.5 - < 0.0	7	16	16	12	24	18
-1.0 - < -0.5	15	15	14	19	13	11
-1.5 - < -1.0	15	8	15	8	7	4
-2.0 - < -1.5	8	7	3	1	2	0
-2.5 - < -2.0	5	4	3	1	1	1
-3.0 - < -2.5	2	1	2	0	0	0
-3.5 - < -3.0	0	1	0	0	0	0
< -3.5	0	0	0	0	0	0
Total	65	65	65	65	65	65

Table 7.B.38: Distribution of IRT b-values for Mathematics End-of-Course CSTs

IRT b-value	General Math	Algebra I	Geometry	Algebra II	Summative H.S. Math	Integrated Math 1	Integrated Math 2	Integrated Math 3
>=3.5	0	0	0	0	0	0	0	0
3.0 - < 3.5	0	0	0	0	0	0	0	0
2.5 - < 3.0	0	0	0	0	0	0	0	0
2.0 - < 2.5	1	2	0	0	0	0	0	0
1.5 - < 2.0	1	1	0	0	0	0	0	1
1.0 - < 1.5	7	4	0	4	3	0	4	2
0.5 - < 1.0	12	12	0	5	2	14	3	10
0.0 - < 0.5	21	17	0	6	8	20	18	14
-0.5 - < 0.0	12	12	3	19	14	17	21	16
-1.0 - < -0.5	9	13	2	14	14	11	12	14
-1.5 - < -1.0	1	2	18	12	12	1	3	3
-2.0 - < -1.5	1	2	16	0	4	1	3	4
-2.5 - < -2.0	0	0	16	4	6	0	0	1
-3.0 - < -2.5	0	0	6	0	1	0	0	0
-3.5 - < -3.0	0	0	2	0	1	0	0	0
< -3.5	0	0	1	0	0	0	0	0
Total	65	65	64	64	65	64	64	65

Table 7.B.39: Distribution of IRT b-values for Science

IRT b-value	Grade 5 Science	Biology	Chemistry	Earth Science	Physics
>=3.5	0	0	0	0	0
3.0 - < 3.5	0	0	0	0	0
2.5 - < 3.0	0	0	0	0	0
2.0 - < 2.5	0	0	0	0	0
1.5 - < 2.0	0	0	0	0	0
1.0 - < 1.5	1	0	2	1	0
0.5 - < 1.0	1	6	3	15	5
0.0 - < 0.5	19	16	21	25	20
-0.5 - < 0.0	23	24	21	14	20
-1.0 - < -0.5	13	12	6	5	11
-1.5 - < -1.0	2	2	6	0	3
-2.0 - < -1.5	1	0	1	0	1
-2.5 - < -2.0	0	0	0	0	0
-3.0 - < -2.5	0	0	0	0	0
-3.5 - < -3.0	0	0	0	0	0
< -3.5	0	0	0	0	0
Total	60	60	60	60	60

Table 7.B.40: Distribution of IRT b-values for English-Language Arts (field-test items)

IRT b-value	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
>=3.5	0	0	0	0	0	0	0	0	0	0
3.0 - < 3.5	0	0	0	0	0	0	0	0	0	0
2.5 - < 3.0	0	0	0	0	0	2	0	0	0	0
2.0 - < 2.5	0	0	1	0	2	4	1	0	1	1
1.5 - < 2.0	2	0	4	2	5	7	0	1	6	2
1.0 - < 1.5	6	2	19	3	13	22	2	6	10	8
0.5 - < 1.0	5	5	15	10	16	26	4	14	22	25
0.0 - < 0.5	10	6	6	10	15	25	3	6	27	37
-0.5 - < 0.0	11	5	8	8	8	14	1	5	10	25
-1.0 - < -0.5	9	3	6	2	5	6	1	3	5	5
-1.5 - < -1.0	4	2	1	1	5	0	0	1	3	1
-2.0 - < -1.5	1	1	0	0	2	0	0	0	0	0
-2.5 - < -2.0	0	0	0	0	0	0	0	0	0	0
-3.0 - < -2.5	0	0	0	0	0	0	0	0	0	0
-3.5 - < -3.0	0	0	0	0	0	0	0	0	0	0
< -3.5	0	0	0	0	0	0	0	0	0	0
Total	48	24	60	36	71	106	12	36	84	104

Table 7.B.41: Distribution of IRT b-values for History-Social Science (field-test items)

IRT b-value	Grade 8	Grade 10	Grade 11
>=3.5	0	0	0
3.0 - < 3.5	0	0	0
2.5 - < 3.0	1	0	0
2.0 - < 2.5	5	4	1
1.5 - < 2.0	24	10	11
1.0 - < 1.5	68	45	31
0.5 - < 1.0	72	73	53
0.0 - < 0.5	44	52	43
-0.5 - < 0.0	17	25	34
-1.0 - < -0.5	6	1	6
-1.5 - < -1.0	2	0	0
-2.0 - < -1.5	1	0	1
-2.5 - < -2.0	0	0	0
-3.0 - < -2.5	0	0	0
-3.5 - < -3.0	0	0	0
< -3.5	0	0	0
Total	240	210	180

Table 7.B.42: Distribution of IRT b-values for Mathematics Grade 2 through 7 (field-test items)

IRT b-value	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
>=3.5	1	0	0	0	0	0
3.0 - < 3.5	0	0	0	0	1	2
2.5 - < 3.0	0	1	1	4	2	6
2.0 - < 2.5	0	0	8	8	5	7
1.5 - < 2.0	0	0	10	4	14	17
1.0 - < 1.5	2	4	13	15	18	22
0.5 - < 1.0	2	5	25	20	27	39
0.0 - < 0.5	2	10	23	16	24	12
-0.5 - < 0.0	3	14	15	6	17	9
-1.0 - < -0.5	4	13	12	6	10	6
-1.5 - < -1.0	4	8	7	8	0	0
-2.0 - < -1.5	4	8	5	3	0	0
-2.5 - < -2.0	2	6	0	0	0	0
-3.0 - < -2.5	2	3	1	0	0	0
-3.5 - < -3.0	2	0	0	0	0	0
< -3.5	2	0	0	0	0	0
Total	30	72	120	90	118	120

Table 7.B.43: Distribution of IRT b-values for Mathematics End-of-Course CSTs (field-test items)

IRT b-value	General Math	Algebra I	Geometry	Algebra II	Summative H.S. Math	Integrated Math 1	Integrated Math 2	Integrated Math 3
>=3.5	0	0	0	0	0	0	0	0
3.0 - < 3.5	0	0	0	2	0	0	0	0
2.5 - < 3.0	1	0	0	0	0	0	0	1
2.0 - < 2.5	1	1	1	2	1	0	0	0
1.5 - < 2.0	0	3	2	2	2	0	0	1
1.0 - < 1.5	2	9	2	12	3	0	1	0
0.5 - < 1.0	2	20	8	12	5	2	0	1
0.0 - < 0.5	0	8	7	8	7	3	1	1
-0.5 - < 0.0	0	3	21	15	4	1	2	1
-1.0 - < -0.5	0	4	8	7	2	0	1	0
-1.5 - < -1.0	0	0	5	10	0	0	1	0
-2.0 - < -1.5	0	0	4	1	0	0	0	1
-2.5 - < -2.0	0	0	1	1	0	0	0	0
-3.0 - < -2.5	0	0	0	0	0	0	0	0
-3.5 - < -3.0	0	0	1	0	0	0	0	0
< -3.5	0	0	0	0	0	0	0	0
Total	6	48	60	72	24	6	6	6

Table 7.B.44: Distribution of IRT b-values for Science (field-test items)

IRT b-value	Grade 5 Science	Biology	Chemistry	Earth Science	Physics	Grade 8 Science	Life Science
>=3.5	0	0	0	0	0	0	0
3.0 - < 3.5	0	0	0	0	0	0	0
2.5 - < 3.0	1	0	0	1	2	1	1
2.0 - < 2.5	2	2	3	9	2	2	5
1.5 - < 2.0	1	8	11	27	11	6	13
1.0 - < 1.5	17	37	26	73	26	25	17
0.5 - < 1.0	40	58	50	88	51	50	40
0.0 - < 0.5	66	55	52	52	58	51	47
-0.5 - < 0.0	42	34	37	12	40	40	46
-1.0 - < -0.5	20	11	22	2	13	32	30
-1.5 - < -1.0	17	4	6	0	5	2	7
-2.0 - < -1.5	4	1	1	0	2	0	3
-2.5 - < -2.0	0	0	0	0	0	0	0
-3.0 - < -2.5	0	0	1	0	0	0	0
-3.5 - < -3.0	0	0	0	0	0	0	0
< -3.5	0	0	0	0	0	0	0
Total	210	210	209	264	210	210	210

Table 7.B.45: IRT Model Data Fit Distribution for English-Language Arts

Operational Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 9		Grade 10		Grade 11	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	21	32%	26	40%	23	30%	30	40%	28	37%	31	41%	38	51%	28	37%	28	37%	17	23%
B	Use	28	43%	24	37%	23	30%	23	31%	29	39%	32	42%	18	24%	18	24%	25	33%	28	37%
C	Use	9	14%	12	18%	23	30%	19	25%	17	23%	6	8%	18	24%	17	23%	19	25%	24	32%
D	Review	6	9%	2	3%	6	8%	2	3%	1	1%	7	9%	1	1%	9	12%	0	0%	6	8%
F	Do not use	1	2%	1	2%	1	1%	1	1%	0	0%	0	0%	0	0%	3	4%	3	4%	0	0%
Total		65	100%	65	100%	76	100%	75	100%	75	100%	76	100%	75	100%	75	100%	75	100%	75	100%

Table 7.B.46: IRT Model Data Fit Distribution for History-Social Science Grades 8, 10, 11

Operational Items		Grade 8		Grade 10		Grade 11	
Flag	Status	N	Pct.	N	Pct.	N	Pct.
A	Use	30	40%	22	37%	22	37%
B	Use	24	32%	14	23%	16	27%
C	Use	19	25%	18	30%	18	30%
D	Review	2	3%	6	10%	4	7%
F	Do not use	0	0%	0	0%	0	0%
Total		75	100%	60	100%	60	100%

Table 7.B.47: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7

Operational Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	46	71%	30	46%	24	37%	37	57%	30	46%	23	35%
B	Use	16	25%	22	34%	21	32%	14	22%	17	26%	19	29%
C	Use	1	2%	9	14%	16	25%	11	17%	17	26%	19	29%
D	Review	0	0%	3	5%	3	5%	2	3%	1	2%	3	5%
F	Do not use	2	3%	1	2%	1	2%	1	2%	0	0%	1	2%
Total		65	100%	65	100%	65	100%	65	100%	65	100%	65	100%

Table 7.B.48: IRT Model Data Fit Distribution for Mathematics End-of-Course Tests

Operational Items		General Mathematics		Algebra I		Geometry		Algebra II		Summative High School Mathematics		Integrated Mathematics 1		Integrated Mathematics 2		Integrated Mathematics 3	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	20	31%	26	40%	16	25%	21	33%	21	32%	23	36%	6	9%	14	22%
B	Use	24	37%	23	35%	20	31%	16	25%	22	34%	19	30%	27	42%	28	43%
C	Use	19	29%	15	23%	27	42%	27	42%	21	32%	19	30%	24	38%	21	32%
D	Review	2	3%	1	2%	1	2%	0	0%	1	2%	2	3%	3	5%	2	3%
F	Do not use	0	0%	0	0%	0	0%	0	0%	0	0%	1	2%	4	6%	0	0%
Total		65	100%	65	100%	64	100%	64	100%	65	100%	64	100%	64	100%	65	100%

Table 7.B. 49: IRT Model Data Fit Distribution for Science

Operational Items		Grade 5 Science		Biology		Chemistry		Earth Science		Physics	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	35	58%	31	52%	24	40%	16	27%	13	22%
B	Use	17	28%	19	32%	18	30%	26	43%	14	23%
C	Use	8	13%	8	13%	18	30%	18	30%	26	43%
D	Review	0	0%	2	3%	0	0%	0	0%	6	10%
F	Do not use	0	0%	0	0%	0	0%	0	0%	1	2%
Total		60	100%	60	100%	60	100%	60	100%	60	100%

Table 7.B.50: IRT Model Data Fit Distribution for English-Language Arts (field-test items)

Operational Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 9		Grade 10		Grade 11	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	9	19%	6	25%	4	7%	8	22%	14	20%	13	12%	3	25%	3	8%	14	17%	13	13%
B	Use	7	15%	8	33%	11	18%	11	31%	23	32%	25	24%	1	8%	7	19%	21	25%	21	20%
C	Use	20	42%	6	25%	31	52%	12	33%	19	27%	50	47%	6	50%	17	47%	31	37%	50	48%
D	Review	7	15%	0	0%	7	12%	4	11%	2	3%	9	8%	1	8%	5	14%	1	1%	7	7%
F	Do not use	5	10%	4	17%	7	12%	1	3%	13	18%	9	8%	1	8%	4	11%	17	20%	13	13%
Total		48	100%	24	100%	60	100%	36	100%	71	100%	106	100%	12	100%	36	100%	84	100%	104	100%

Table 7.B.51: IRT Model Data Fit Distribution for History-Social Science Grades 8, 10, 11 (field-test items)

Field-test Items		Grade 8		Grade 10		Grade 11	
Flag	Status	N	Pct.	N	Pct.	N	Pct.
A	Use	46	19%	55	26%	49	27%
B	Use	45	19%	41	20%	29	16%
C	Use	97	40%	79	38%	73	41%
D	Review	15	6%	17	8%	10	6%
F	Do not use	37	15%	18	9%	19	11%
Total		240	100%	210	100%	180	100%

Table 7.B.52: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7 (field-test items)

Field-test Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	9	30%	15	21%	24	20%	23	26%	14	12%	10	8%
B	Use	10	33%	20	28%	24	20%	16	18%	24	20%	24	20%
C	Use	7	23%	31	43%	46	38%	28	31%	43	36%	40	33%
D	Review	1	3%	5	7%	7	6%	5	6%	8	7%	9	8%
F	Do not use	3	10%	1	1%	19	16%	18	20%	29	25%	37	31%
Total		30	100%	72	100%	120	100%	90	100%	118	100%	120	100%

Table 7.B.53: IRT Model Data Fit Distribution for Mathematics End-of-Course Tests (field-test items)

Field-test Items		General Mathematics		Algebra I		Geometry		Algebra II		Summative H.S. Mathematics		Integrated Mathematics 1		Integrated Mathematics 2		Integrated Mathematics 3	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	1	17%	2	4%	24	40%	18	25%	5	21%	1	17%	1	17%	0	0%
B	Use	1	17%	5	10%	15	25%	13	18%	4	17%	1	17%	1	17%	2	33%
C	Use	0	0%	24	50%	19	32%	25	35%	10	42%	2	33%	4	67%	2	33%
D	Review	2	33%	6	13%	1	2%	8	11%	0	0%	1	17%	0	0%	1	17%
F	Do not use	2	33%	11	23%	1	2%	8	11%	5	21%	1	17%	0	0%	1	17%
Total		6	100%	48	100%	60	100%	72	100%	24	100%	6	100%	6	100%	6	100%

Table 7.B.54: IRT Model Data Fit Distribution for Science (field-test items)

Field-test Items		Grade 5 Science		Biology		Chemistry		Earth Science		Physics		Grade 8 Science		Life Science	
Flag	**Status**	**N**	**Pct.**	**N**	**Pct.**	**N**	**Pct.**	**N**	**Pct.**	**N**	**Pct.**	**N**	**Pct.**	**N**	**Pct.**
A	Use	57	27%	40	19%	39	19%	35	13%	50	24%	143	68%	83	40%
B	Use	47	22%	56	27%	56	27%	40	15%	38	18%	51	24%	55	26%
C	Use	80	38%	78	37%	74	35%	76	29%	67	32%	14	7%	60	29%
D	Review	10	5%	9	4%	13	6%	35	13%	15	7%	2	1%	5	2%
F	Do not use	16	8%	27	13%	27	13%	78	30%	40	19%	0	0%	7	3%
Total		210	100%	210	100%	209	100%	264	100%	210	100%	210	100%	210	100%

Chapter 8: Reliability

This chapter summarizes the evidence of reliability for the California Standardized Tests for the spring 2005 administration. These analyses were conducted at the test-level with each subject area and the results were reported for each of the 36 operational CSTs. The reliability analyses included the computation of overall and subscore reliabilities, standard errors of measurement (SEMs) and inter-correlations of reporting cluster subscores. IRT-based conditional SEMs were computed, and the analyses of accuracy and consistency of proficiency level classifications were also performed for the overall examinee population. Reliability analyses are also reported at the subgroup level.

Reliability

Reliability focuses on the extent to which differences in test scores reflect true differences in the knowledge, ability, or skill being tested rather than fluctuations due to chance or random factors. The variance in the distributions of test scores — essentially, the differences among individuals — is partly due to real differences in the knowledge, skill, or ability being tested (true score variance) and partly due to random errors in the measurement process (error variance). The number used to describe reliability is an estimate of the proportion of the total variance that is true score variance. Several different ways of estimating this proportion exist. The estimates of reliability reported here are internal-consistency measures, which are derived from analysis of the consistency of the performance of individuals on items within a test (internal-consistency reliability). Therefore, they apply only to the test form being analyzed. They do not take into account form-to-form variation due to equating limitations or lack of parallelism, nor are they responsive to day-to-day variation due, for example, to state of health or testing environment. Reliability coefficients may range from 0 to 1. The higher the reliability coefficient for a set of scores, the more likely individuals would be to obtain very similar scores if they were retested. The formula for the internal consistency reliability as measured by Cronbach's Alpha (Cronbach, 1951) is reported below:

$$\alpha = \frac{n}{n-1}\left[1 - \frac{\sum_{i=1}^{n} \sigma_i^{\,2}}{\sigma_x^2}\right] \qquad (8.1)$$

where

n is the number of items,

σ_i^2 is the variance of scores on the i-th item, and

σ_x^2 is the variance of the total score (either the total raw score or scale score).

The Standard Error of Measurement (SEM) provides a measure of score instability in the score metric. A student's true ability will fall within a range of their observed score $\pm$ 1 SEM about 68 percent of the time. The Standard Error of Measurement was computed as follows:

$$\sigma_e = \sigma_x \sqrt{1-\alpha} \qquad (8.2)$$

where

α is the reliability estimated using (8.1) above, and

σ_x is the standard deviation of the total raw scores.

Table 8.1 presents the results of reliability analyses conducted for the P2 examinee population on each of the 36 operational CSTs.

Table 8. 1: Reliabilities and Standard Errors of Measurement for the CSTs

Subject Area	CST	No. of Items	No. of Examinees	Reliab.	Scale Score Mean	Scale Score Std. Dev.	Scale Score SEM	Raw Score Mean	Raw Score Std. Dev.	Raw Score SEM
English-Language Arts	**2**	65	466,054	0.94	336	61	14.94	40.16	14.05	3.44
	3	65	473,158	0.93	324	61	16.14	39.34	13.16	3.48
	4*	75	479,413	0.94	346	54	13.23	44.31	15.26	3.74
	5	75	485,359	0.94	340	56	13.72	45.33	14.81	3.63
	6	75	483,008	0.94	335	54	13.23	44.19	14.86	3.64
	7*	75	481,346	0.93	337	55	14.55	44.23	14.63	3.87
	8	75	489,007	0.93	334	55	14.55	43.11	14.15	3.74
	9	75	512,712	0.94	340	60	14.70	43.18	15.17	3.72
	10	75	458,455	0.94	328	58	14.21	45.13	15.75	3.86
	11	75	407,408	0.94	323	64	15.68	43.14	15.52	3.80
History	**8**	75	487,088	0.91	324	55	16.50	35.77	13.38	4.01
	10	60	451,731	0.91	321	61	18.30	30.17	11.46	3.44
	11	60	400,563	0.91	329	64	19.20	30.03	11.84	3.55
Math	**2**	65	466,147	0.93	366	83	21.96	47.40	12.10	3.20
	3	65	472,847	0.93	362	78	20.64	46.22	12.25	3.24
	4	65	480,644	0.94	354	70	17.15	45.74	13.29	3.26
	5	65	485,291	0.94	350	89	21.80	39.80	13.99	3.43
	6	65	482,447	0.94	340	70	17.15	39.10	13.61	3.33
	7	65	481,761	0.93	334	66	17.46	35.46	13.26	3.51
	General Mathematics	65	368,957	0.90	310	52	16.44	30.82	11.22	3.55
	Algebra I	65	675,464	0.87	308	55	19.83	27.57	10.23	3.69
	Geometry	64	331,509	0.92	315	66	18.67	34.28	12.89	3.65
	Algebra II	64	195,481	0.91	314	63	18.90	32.80	11.68	3.50
	High School Math	65	90,632	0.92	346	71	20.08	43.94	11.81	3.34
	Integrated Math 1	64	8,503	0.84	276	50	20.00	24.77	9.05	3.62
	Integrated Math 2	64	6,653	0.88	325	54	18.71	29.13	10.53	3.65
	Integrated Math 3	65	3,551	0.89	328	67	22.22	32.93	11.06	3.67
Science	**Grade 5 Science**	60	484,500	0.88	325	48	16.63	30.28	10.48	3.63
	Biology	60	451,532	0.90	331	46	14.55	30.92	11.24	3.55
	Chemistry	60	196,248	0.90	327	45	14.23	31.41	10.98	3.47
	Earth Science	60	172,443	0.90	319	43	13.60	28.56	11.01	3.48
	Physics	60	59,149	0.91	326	48	14.40	31.27	11.82	3.55
	Integrated Science 1	60	110,724	0.82	300	32	13.58	23.99	8.49	3.60
	Integrated Science 2	60	20,563	0.78	298	29	13.60	23.72	7.63	3.58
	Integrated Science 3	60	3,398	0.79	300	30	13.75	22.39	7.85	3.60
	Integrated Science 4	60	1,031	0.90	316	44	13.91	29.55	11.16	3.53

Table 8. MC items

The results in Table 8.1 indicated that all grade-specific CSTs for ELA, history-social science, and math were highly reliable with reliabilities ranging from 0.92 to 0.94. The reliabilities for the higher-level mathematics and science CSTs were also high and ranged from 0.87 to 0.92. The reliabilities were highly consistent across all CSTs within the subjects areas of ELA and history-social science and across grade-level CSTs for mathematics.

Reliability estimates for the end-of-course CSTs were more variable. Algebra I and Grade 5 Science CSTs proved to be the least reliable of this group with reliabilities of 0.87 and 0.88, respectively. Summative High School Math was the most reliable of all the end-of-course assessments with a

reliability of 0.92. The reliabilities for the integrated CSTs were comparatively lower in general, ranging from 0.78 to 0.90. The Integrated Science 2 and 3 CSTs exhibited the lowest reliabilities of 0.78 and 0.79, respectively.

Inter-correlations, Reliabilities, and SEMs for Reporting Clusters

For each CST, number-correct scores are compiled for four-to-six reporting clusters. Inter-correlations and reliability estimates for the reporting clusters are presented in Tables 8.A.1 to 8.A.4 for the 36 CSTs. Consistent with previous years, the reliabilities within reporting clusters varied significantly according to the number of items in each cluster. For example, the reliabilities for three of the reporting clusters in Summative High School Math were among the highest of all the CSTs. However, the fourth reporting cluster (Probability and Statistics) consisting of only five items had a coefficient Alpha of 0.54. Similar results were observed for inter-correlations among reporting clusters, that is, the reporting clusters based on fewer items tended to have lower inter-correlations with the other clusters. An interesting observation is that all clusters with 20 or more items exhibited a reliability of 0.80 or higher.

For ELA, the content area Word Analysis and Vocabulary exhibited lower reliability at upper grade levels and higher reliability at the lower grade levels. The content area of Writing Strategies, however, exhibited the opposite pattern. Here, the reliability was low at lower grades and became higher as the grades progressed. In the case of mathematics, the reporting clusters related to Number Sense and Algebra had consistently higher reliabilities across all grades. On the other hand, the reporting cluster related to Statistics and Probability had the lowest reliability across all grades.

The reliabilities of the cluster scores for the grade-specific math and ELA CSTs were generally higher than the other CSTs. The history-social science CSTs had a majority of the cluster score reliabilities equal to or lower than 0.71; however the content area of U.S. Constitution and the Early Republic at grade 8 and World War II and Foreign Affairs at grade 11 had the reliabilities were 0.81 and 0.77 respectively. A similar pattern was observed for the science CSTs, where a majority of the cluster score reliabilities were equal to or lower than 0.75. The subscore reliabilities for majority of the clusters in the integrated math and science CSTs remained equal to or lower than 0.75.

Subgroup Reliabilities, and SEMs

The reliabilities of the 36 operational CSTs were also investigated for various subgroups of the examinee population. The subgroups included in these analyses were the same used in all previous analyses, that is, gender, ethnicity, enrollment in NSLP, provision of special services, and language proficiency. For each subgroup analysis, reliability information is first reported for the test overall and then at the cluster score level. Tables 8.A.5 thru 8.A.19 present the two sets of reliabilities for the various subgroups. Tables 8.A.5 to 8.A.9 present these analyses for the subgroups based on Gender and NSLP enrollment. The next set of tables, 8.A.10 to 8.A.14, show the same analyses for the subgroups based on provision of special services and the language fluency. The last set of tables, 8.A.15 to 8.A.19, present results for the subgroups based on primary ethnicity of the examinees.

An examination of the reliabilities for all subgroups was performed by looking at the differences in reliabilities across subgroups for each CST. For each subgroup, one group was considered as the reference group and the rest of the groups were defined as focal groups. The focal and reference group designations were similar to the group definitions used in DIF analyses in Chapter 6. The reference groups were declared as follows: Males for Gender, “No NSLP” for NSLP enrollment, “No Special

Services" for Special Services Provision, "English Proficient" for English Fluency, and "Whites" for Ethnicity.

The differences between overall reliabilities are summarized in Table 8.2 as presented next.

Table 8.2: Summary of Differences Between Subgroup Reliabilities

	Gender (M-F)	NSLP (No-Yes)	Special Serv. (No-Yes)	English Fluency		
				Eng-Ini. Des.	Eng-Lrnr	Eng-Redes.
Minimum	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	0.06	0.12	0.10	0.04	0.24	0.12
Average	0.02	0.03	0.02	0.01	0.08	0.03
Standard Dev.	0.01	0.02	0.02	0.01	0.06	0.02
	W-Am. Ind	**W-Asian**	**W-Pac. Isl.**	**W-Filipino**	**W-Hispanic**	**W-African**
Minimum	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	0.04	0.05	0.15	0.07	0.13	0.12
Average	0.01	0.01	0.03	0.02	0.04	0.04
Standard Dev.	0.01	0.01	0.03	0.01	0.03	0.03

The differences between reliabilities were negligibly small across subgroups for the overall reliabilities. On average, reliabilities across all subgroups remained in the range of 0.01 to 0.05 for majority of the CSTs. The differences in reliabilities were slightly higher for the integrated science CSTs for the subgroups of English Learners, Asians, Hispanics, and African Americans. Since the sample sizes for American Indians and Pacific Islanders were smaller than 25 for the Integrated Math 3 and Integrated Science 4 CSTs, no inferences regarding differences could be made for those groups.

The reliabilities and standard errors of measurement were also computed for cluster scores for each subgroup (see Appendix 8.A.1 thru 8.A.4).

The reader should be aware that due to smaller number of items upon which the cluster reliabilities are based, the interpretations should be made with caution.

Conditional Standard Errors of Measurement

As part of the IRT-based equating procedures, scale score conversion tables and conditional standard errors of measurement (CSEMs) are produced. CSEMs for CST scale scores are based on item response theory and are calculated by the IRTEQUATE module in GENASYS.

Standard errors of measurement vary across the scale. When a test has cut scores it is important to provide CSEMs at the cut scores. Table 8.3 presents the scale score CSEMs at the lowest score defining below basic, basic, proficient, and advanced categories for each CST.[10] These CSEMS tend to be similar within families of tests. The CSEMs tended to be higher at the advanced cut-points for all tests. The pattern of lower values of CSEMs at basic and proficient levels are expected since (1) more items tend to be of middle difficulty and (2) items at the extremes still provide information toward the

[10] Scaled score CSEMs are not provided for the Integrated Science tests because these tests were not scaled using the same procedures as the other CSTs. See chapter 3 for additional details.

middle of the scale. This results in more precise scores in the middle of the scale and less precise scores in the extremes of the scale.

Table 8.3: Scale Score Conditional Standard Error of Measurement at Cut Points

Subject Area	CST	Below Basic		Basic		Proficient		Advance	
		Min SS	CSEM	Min SS	CSEM	Min SS	CSEM	Min SS	CSEM
English-Language Arts	**2**	262	14	300	13	350	14	402	18
	3	259	15	300	14	350	16	402	20
	4*	269	13	300	13	350	12	393	14
	5	271	13	300	13	350	13	395	15
	6	268	13	300	13	350	13	394	15
	7*	263	14	300	13	350	14	401	15
	8	266	15	300	14	350	14	395	16
	9	265	15	300	13	350	14	397	17
	10	263	13	300	13	350	14	392	17
	11	259	15	300	14	350	15	396	18
	* Including writing prompt								
History-Social Science	**8**	271	16	300	15	350	15	396	17
	10	275	17	300	18	350	17	400	20
	11	270	19	300	18	350	17	401	20
Mathematics	**2**	236	18	300	17	350	19	414	24
	3	236	17	300	16	350	18	414	23
	4	245	15	300	14	350	15	401	20
	5	248	19	300	18	350	19	430	24
	6	253	17	300	15	350	16	415	21
	7	257	17	300	16	350	17	414	20
	General Mathematics	257	17	300	16	350	17	414	20
	Algebra I	253	20	300	18	350	18	428	21
	Geometry	247	17	300	15	350	16	418	22
	Algebra II	257	18	300	18	350	18	416	22
	High School Mathematics	235	18	300	17	350	18	420	24
	Integrated Mathematics 1	249	21	300	19	350	19	425	23
	Integrated Mathematics 2	258	20	300	18	350	17	418	20
	Integrated Mathematics 3	252	22	300	20	350	20	428	24
Science	**Grade 5 Science**	268	17	300	16	350	16	410	19
	Biology	276	15	300	13	350	13	394	16
	Chemistry	276	14	300	13	350	14	394	16
	Earth Science	277	14	300	14	350	14	393	16
	Physics	276	14	300	13	350	14	393	16
	Integrated Science 1	277	**	300	**	350	**	390	**
	Integrated Science 2	278	**	300	**	350	**	391	**
	Integrated Science 3	276	**	300	**	350	**	391	**
	Integrated Science 4	276	**	300	**	350	**	397	**
** CSEMS for the Integrated Science CSTs are not available									

Decision Classification Analyses

The methodology used for estimating the reliability of classification decisions is described in Livingston and Lewis (1995) and is implemented using the ETS-proprietary computer program RELCLASS-COMP (Version 4.12). RELCLASS-COMP estimates decision consistency using an estimated multivariate distribution of reported classifications on the current form of the exam and classifications on a hypothetical alternate form using the reliability of the test and strong true score theory. RELCLASS-COMP also estimates decision accuracy using an estimated multivariate

distribution of reported classifications on the current form of the exam and the classifications based on an all-forms average (true score). In each case, the proportion of classifications with exact agreement is the sum of the entries in the diagonal of the contingency table representing the multivariate distribution. Reliability of classification at a cut score is estimated by collapsing the multivariate distribution at the passing score boundary into a *n* by *n* table (where n is the number of proficiency levels) and summing the entries in the diagonal.

The results of these analyses are presented in Tables 8.B.1 to 8.B.38. in Appendix 8.B on page 327. The tables include the contingency tables for the various proficiency level classifications. The proportion of accurately classified students can be determined by summing across the diagonals of the upper tables; these proportions ranged from 0.68 to 0.78 across a majority of the CSTs (for 34 out of 36 CSTs). The proportion of students that were classified consistently (diagonals of the lower tables) ranged from 0.58 to 0.70 across all proficiency levels for these CSTs. These lower overall magnitudes of decision accuracy and decision consistency are not surprising considering the numbers of proficiency levels that are reported for CST results. When the decisions are collapsed to below proficient versus proficient and above, which are the critical categories for Adequate Yearly Progress analyses, the proportion of students that were classified accurately ranged from 0.91 to 0.97 across all CSTs. Similarly, the proportion of students that were classified consistently ranged from 0.88 to 0.96 for students classified into below proficient versus proficient and advanced.

References

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Feldt, L. S. and Brennan, R. L. "Reliability," in *Educational Measurement*. Edited by R. L. Linn. New York: Macmillan, 1989.

Livingston, S. A., and Lewis, C. "Estimating the Consistency and Accuracy of Classification Based on Test Scores," *Journal on Educational Measurement*, Vol. 32 (1995), pp. 179–197.

Appendix 8.A — Reliabilities and SEM Tables

Table 8.A.1: Subscore Reliabilities and Correlations for English-Language Arts

Subscore Reliabilities and Correlations for English-Language Arts								
Subscore Area	**# of Items**	**Correlation**					***Reliab.***	***SEM***
Grade 2		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	22	1.00	0.77	0.68	0.78	0.70	0.82	1.98
2. Reading Comprehension	15	0.77	1.00	0.68	0.73	0.70	0.84	1.59
3. Literary Response and Analysis	6	0.68	0.68	1.00	0.64	0.60	0.60	1.04
4. Written and Oral Language Conventions	14	0.78	0.73	0.64	1.00	0.71	0.81	1.57
5. Writing Strategies	8	0.70	0.70	0.60	0.71	1.00	0.66	1.20
Grade 3		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	20	1.00	0.74	0.69	0.75	0.70	0.84	1.80
2. Reading Comprehension	15	0.74	1.00	0.69	0.66	0.67	0.76	1.72
3. Literary Response and Analysis	8	0.69	0.69	1.00	0.62	0.60	0.65	1.18
4. Written and Oral Language Conventions	13	0.75	0.66	0.62	1.00	0.66	0.72	1.52
5. Writing Strategies	9	0.70	0.67	0.60	0.66	1.00	0.64	1.33
Grade 4		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	18	1.00	0.81	0.70	0.76	0.74	0.83	1.73
2. Reading Comprehension	15	0.81	1.00	0.69	0.75	0.74	0.82	1.60
3. Literary Response and Analysis	9	0.70	0.69	1.00	0.64	0.63	0.60	1.29
4. Written and Oral Language Conventions	18	0.76	0.75	0.64	1.00	0.72	0.78	1.82
5. Writing Strategies	15	0.74	0.74	0.63	0.72	1.00	0.73	1.75
Grade 5		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	14	1.00	0.74	0.74	0.70	0.71	0.77	1.57
2. Reading Comprehension	16	0.74	1.00	0.72	0.68	0.73	0.76	1.73
3. Literary Response and Analysis	12	0.74	0.72	1.00	0.69	0.70	0.77	1.39
4. Written and Oral Language Conventions	16	0.70	0.68	0.69	1.00	0.71	0.78	1.64
5. Writing Strategies	17	0.71	0.73	0.70	0.71	1.00	0.77	1.78
Grade 6		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	13	1.00	0.73	0.69	0.71	0.74	0.74	1.56
2. Reading Comprehension	17	0.73	1.00	0.67	0.69	0.73	0.74	1.88
3. Literary Response and Analysis	12	0.69	0.67	1.00	0.62	0.70	0.67	1.55
4. Written and Oral Language Conventions	16	0.71	0.69	0.62	1.00	0.69	0.81	1.55
5. Writing Strategies	17	0.74	0.73	0.70	0.69	1.00	0.80	1.81
Grade 7		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	11	1.00	0.73	0.64	0.70	0.70	0.71	1.37
2. Reading Comprehension	18	0.73	1.00	0.67	0.71	0.73	0.80	1.79
3. Literary Response and Analysis	13	0.64	0.67	1.00	0.63	0.65	0.66	1.65
4. Written and Oral Language Conventions	16	0.70	0.71	0.63	1.00	0.74	0.78	1.74
5. Writing Strategies	17	0.70	0.73	0.65	0.74	1.00	0.76	1.81
Grade 8		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	9	1.00	0.61	0.62	0.60	0.62	0.54	1.33
2. Reading Comprehension	18	0.61	1.00	0.70	0.66	0.71	0.73	1.95
3. Literary Response and Analysis	15	0.62	0.70	1.00	0.66	0.70	0.72	1.73
4. Written and Oral Language Conventions	16	0.60	0.66	0.66	1.00	0.75	0.77	1.69
5. Writing Strategies	17	0.62	0.71	0.70	0.75	1.00	0.81	1.75

Subscore Reliabilities and Correlations for English-Language Arts								
Subscore Area	**# of Items**	**Correlation**					***Reliab.***	***SEM***
Grade 9		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	8	1.00	0.71	0.69	0.64	0.71	0.69	1.19
2. Reading Comprehension	18	0.71	1.00	0.77	0.68	0.76	0.80	1.81
3. Literary Response and Analysis	16	0.69	0.77	1.00	0.65	0.73	0.78	1.74
4. Written and Oral Language Conventions	13	0.64	0.68	0.65	1.00	0.74	0.70	1.58
5. Writing Strategies	20	0.71	0.76	0.73	0.74	1.00	0.81	1.94
Grade 10		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	8	1.00	0.70	0.68	0.66	0.72	0.67	1.13
2. Reading Comprehension	18	0.70	1.00	0.76	0.71	0.77	0.81	1.83
3. Literary Response and Analysis	16	0.68	0.76	1.00	0.67	0.74	0.79	1.76
4. Written and Oral Language Conventions	13	0.66	0.71	0.67	1.00	0.77	0.75	1.53
5. Writing Strategies	20	0.72	0.77	0.74	0.77	1.00	0.83	1.92
Grade 11		**1**	**2**	**3**	**4**	**5**		
1. Word Analysis and Vocabulary	8	1.00	0.66	0.66	0.62	0.69	0.62	1.24
2. Reading Comprehension	19	0.66	1.00	0.76	0.67	0.76	0.76	1.94
3. Literary Response and Analysis	17	0.66	0.76	1.00	0.67	0.76	0.77	1.82
4. Written and Oral Language Conventions	9	0.62	0.67	0.67	1.00	0.77	0.70	1.28
5. Writing Strategies	22	0.69	0.76	0.76	0.77	1.00	0.86	1.98

Table 8.A.2: Subscore Reliabilities and Correlations for History-Social Science

Subscore Reliabilities and Correlations for History-Social Science								
Subscore Area	**# of items**	**Correlation**					***Reliab***	***SEM***
Grade 8		**1**	**2**	**3**	**4**	**5**		
1. World History and Geography: Ancient Civilizations	16	1.00	0.66	0.58	0.68	0.58	0.67	1.80
2. Late Antiquity and the Middle Ages	14	0.66	1.00	0.60	0.70	0.61	0.68	1.70
3. Renaissance/Reformation	10	0.58	0.60	1.00	0.63	0.55	0.52	1.43
4. U.S. Constitution and the Early Republic	22	0.68	0.70	0.63	1.00	0.71	0.81	2.07
5. Civil War and Its Aftermath	13	0.58	0.61	0.55	0.71	1.00	0.68	1.64
Grade 10 (World History)		**1**	**2**	**3**	**4**	**5**		
1. Development of Modern Political Thought	13	1.00	0.66	0.66	0.63	0.60	0.70	1.64
2. Industrial Expansion and Imperialism	10	0.66	1.00	0.66	0.63	0.60	0.67	1.41
3. Causes and Effects of World War I	14	0.66	0.66	1.00	0.67	0.61	0.69	1.69
4. Causes and Effects of World War II	13	0.63	0.63	0.67	1.00	0.62	0.68	1.62
5. International Developments in the Post-World War II Era	10	0.60	0.60	0.61	0.62	1.00	0.62	1.40
Grade 11 (U.S. History)		**1**	**2**	**3**	**4**	**5**		
1. Foundations of American Political and Social Thought	10	1.00	0.64	0.62	0.67	0.64	0.63	1.44
2. Industrialization and the U.S. role as a World Power	13	0.64	1.00	0.64	0.66	0.63	0.65	1.62
3. United States between the World Wars	12	0.62	0.64	1.00	0.68	0.66	0.66	1.56
4. World War II and Foreign Affairs	12	0.67	0.66	0.68	1.00	0.71	0.77	1.49
5. Post-World War II Domestic Affairs	13	0.64	0.63	0.66	0.71	1.00	0.71	1.61

Table 8.A.3: Subscore Reliabilities and Correlations for Mathematics

Subscore Reliabilities and Correlations for Mathematics									
Subscore Area	**# of items**	**Correlation**						***Rel.***	***SEM***
Grade 2		**1**	**2**	**3**	**4**	**5**	**6**		
1. Number Sense: Place Value, Addition, and Subtraction	15	1.00	0.78	0.70	0.69	0.67	-	0.80	1.49
2. Number Sense: Multiplication, Division, and Fractions	23	0.78	1.00	0.70	0.74	0.70	-	0.83	1.83
3. Algebra and Functions	6	0.70	0.70	1.00	0.63	0.63	-	0.68	0.96
4. Measurement and Geometry	14	0.69	0.74	0.63	1.00	0.65	-	0.72	1.40
5. Statistics, Data Analysis, and Probability	7	0.67	0.70	0.63	0.65	1.00	-	0.63	0.98
Grade 3		**1**	**2**	**3**	**4**	**5**		**6**	
1. Number Sense: Place Value, Fractions, and Decimals	16	1.00	0.78	0.72	0.69	0.60	-	0.80	1.52
2. Number Sense: Addition, Subtraction, Multiplication, and Division	16	0.78	1.00	0.73	0.67	0.57	-	0.82	1.63
3. Algebra and Functions	12	0.72	0.73	1.00	0.67	0.58	-	0.76	1.36
4. Measurement and Geometry	16	0.69	0.67	0.67	1.00	0.59	-	0.74	1.52
5. Statistics, Data Analysis, and Probability	5	0.60	0.57	0.58	0.59	1.00	-	0.53	0.78
Grade 4		**1**	**2**	**3**	**4**	**5**		**6**	
1. Number Sense: Decimals, Fractions, and Negative Numbers	16	1.00	0.74	0.74	0.67	0.59	-	0.79	1.49
2. Number Sense: Operations and Factoring	15	0.74	1.00	0.76	0.68	0.55	-	0.84	1.50
3. Algebra and Functions	18	0.74	0.76	1.00	0.69	0.58	-	0.87	1.58
4. Measurement and Geometry	12	0.67	0.68	0.69	1.00	0.57	-	0.72	1.48
5. Statistics, Data Analysis, and Probability	4	0.59	0.55	0.58	0.57	1.00	-	0.51	0.73
Grade 5		**1**	**2**	**3**	**4**	**5**		**6**	
1. Number Sense: Estimation, Percents, and Factoring	12	1.00	0.75	0.73	0.70	0.51	-	0.76	1.44
2. Number Sense: Operations with Fractions and Decimals	17	0.75	1.00	0.74	0.72	0.55	-	0.85	1.68
3. Algebra and Functions	17	0.73	0.74	1.00	0.74	0.58	-	0.82	1.69
4. Measurement and Geometry	15	0.70	0.72	0.74	1.00	0.56	-	0.78	1.66
5. Statistics, Data Analysis, and Probability	4	0.51	0.55	0.58	0.56	1.00	-	0.60	0.71
Grade 6		**1**	**2**	**3**	**4**	**5**		**6**	
1. Number Sense: Ratios, Proportions, Percentages, and Negative Fractions	15	1.00	0.73	0.77	0.62	0.72	-	0.78	1.63
2. Number Sense: Operations and Problem Solving with Fractions	10	0.73	1.00	0.74	0.58	0.67	-	0.70	1.35
3. Algebra and Functions	19	0.77	0.74	1.00	0.65	0.73	-	0.82	1.80
4. Measurement and Geometry	10	0.62	0.58	0.65	1.00	0.62	-	0.65	1.44
5. Statistics, Data Analysis, and Probability	11	0.72	0.67	0.73	0.62	1.00	-	0.76	1.41

Subscore Reliabilities and Correlations for Mathematics									
Subscore Area	**# of items**	**Correlation**						***Rel.***	***SEM***
Grade 7		**1**	**2**	**3**	**4**	**5**	**6**		
1. Number Sense: Rational Numbers	14	1.00	0.62	0.64	0.72	0.68	0.55	0.74	1.61
2. Number Sense: Exponent, Powers and Roots	8	0.62	1.00	0.60	0.59	0.58	0.50	0.66	1.26
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions	10	0.64	0.60	1.00	0.66	0.63	0.53	0.64	1.41
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	15	0.72	0.59	0.66	1.00	0.71	0.58	0.80	1.60
5. Measurement and Geometry	13	0.68	0.58	0.63	0.71	1.00	0.58	0.72	1.63
6. Statistics, Data Analysis, and Probability	5	0.55	0.50	0.53	0.58	0.58	1.00	0.69	0.91
General Math		**1**	**2**	**3**	**4**	**5**	**6**		
1. Number Sense: Rational Numbers	14	1.00	0.62	0.60	0.59	0.55	0.50	0.68	1.66
2. Number Sense: Exponent, Powers and Roots	10	0.62	1.00	0.57	0.54	0.51	0.48	0.63	1.41
3. Algebra and Functions: Quantitative Relationships, and Evaluating Expressions	11	0.60	0.57	1.00	0.59	0.50	0.53	0.66	1.48
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	10	0.59	0.54	0.59	1.00	0.52	0.52	0.60	1.33
5. Measurement and Geometry	11	0.55	0.51	0.50	0.52	1.00	0.48	0.50	1.54
6. Statistics, Data Analysis, and Probability	9	0.50	0.48	0.53	0.52	0.47	1.00	0.62	1.34
Algebra I		**1**	**2**	**3**	**4**	**5**	**6**		
1. Number Properties, Operations, and Linear Equations	17	1.00	0.63	0.62	0.46	-	-	0.74	1.86
2. Graphing and Systems of Linear Equations	14	0.63	1.00	0.62	0.46	-	-	0.66	1.72
3. Quadratics and Polynomials	21	0.62	0.62	1.00	0.50	-	-	0.67	2.04
4. Functions and Rational Expressions	13	0.46	0.46	0.50	1.00	-	-	0.51	1.59
Geometry		**1**	**2**	**3**	**4**	**5**	**6**		
1. Logic and Geometric Proofs	23	1.00	0.70	0.73	0.71	-	-	0.80	2.12
2. Volume and Area Formulas	11	0.70	1.00	0.67	0.67	-	-	0.72	1.46
3. Angle Relationships, Constructions, and Lines	15	0.73	0.67	1.00	0.71	-	-	0.76	1.73
4. Trigonometry	15	0.71	0.67	0.71	1.00	-	-	0.77	1.70
Algebra II		**1**	**2**	**3**	**4**	**5**	**6**		
1. Polynomials and Rational Expressions	19	1.00	0.69	0.69	0.60	-	-	0.79	1.86
2. Quadratics, Conics, and Complex Numbers	16	0.69	1.00	0.66	0.60	-	-	0.68	1.83
3. Exponents and Logarithms	15	0.69	0.66	1.00	0.62	-	-	0.75	1.73
4. Series, Combinatorics, and Probability and Statistics	14	0.60	0.60	0.62	1.00	-	-	0.65	1.65

Subscore Reliabilities and Correlations for Mathematics									
Subscore Area	**# of items**	**Correlation**						***Rel.***	***SEM***
Summative High School Math		**1**	**2**	**3**	**4**	**5**	**6**		
1. Algebra I	18	1.00	0.74	0.77	0.51	-	-	0.78	1.65
2. Geometry	19	0.74	1.00	0.73	0.52	-	-	0.77	1.69
3. Algebra II	23	0.77	0.73	1.00	0.54	-	-	0.83	2.07
4. Probability and Statistics	5	0.51	0.52	0.54	1.00	-	-	0.54	0.90
Integrated Math 1		**1**	**2**	**3**	**4**	**5**	**6**		
1. Algebra I: Number Properties, Operations and Linear Equations	15	1.00	0.53	0.52	0.24	0.47	-	0.73	1.74
2. Algebra I: Graphing	9	0.53	1.00	0.48	0.22	0.42	-	0.53	1.38
3. Algebra I: Quadratics and Polynomials	14	0.52	0.48	1.00	0.29	0.43	-	0.52	1.70
4. Algebra I: Functions and Relations Expressions	7	0.24	0.22	0.29	1.00	0.23	-	0.33	1.13
5. Geometry	19	0.47	0.42	0.43	0.23	1.00	-	0.58	1.98
Integrated Math 2		**1**	**2**	**3**	**4**	**5**	**6**		
1. Algebra I	20	1.00	0.64	0.46	0.55	0.43	-	0.68	1.96
2. Geometry: Logic and Geometric Proofs	22	0.64	1.00	0.54	0.62	0.45	-	0.77	2.12
3. Geometry: Angle Relationships, Construction and Lines	8	0.46	0.54	1.00	0.46	0.30	-	0.42	1.33
4. Trigonometry	10	0.55	0.62	0.46	1.00	0.39	-	0.61	1.42
5. Algebra II/Probability and Statistics	4	0.43	0.45	0.30	0.39	1.00	-	0.34	0.88
Integrated Math 3		**1**	**2**	**3**	**4**	**5**	**6**		
1. Geometry	5	1.00	0.44	0.39	0.42	0.38	-	0.47	0.87
2. Algebra II: Polynomials and Relations Expressions	19	0.44	1.00	0.63	0.63	0.54	-	0.76	1.89
3. Algebra II: Quadratics, Conics and Statistics	16	0.39	0.63	1.00	0.60	0.54	-	0.63	1.84
4. Algebra II: Exponents and Logarithms	15	0.42	0.63	0.60	1.00	0.58	-	0.74	1.74
5. Algebra II: Series, Combinatorics, Probability and Statistics	10	0.38	0.54	0.54	0.58	1.00	-	0.58	1.44

Table 8.A.4: Subscore Reliabilities and Correlations for Science

Subscore Reliabilities and Correlations for Science									
Subscore Area	**# of items**	**Correlation**						***Reliab***	***SEM***
Grade 5 Science		**1**	**2**	**3**	**4**	**5**	**6**		
1. Physical Science (Grade 5)	11	1.00	0.51	0.58	0.55	0.57	0.55	0.60	1.51
2. Physical Science (Grade 4)	8	0.51	1.00	0.51	0.48	0.51	0.49	0.48	1.33
3. Life Science (Grade 5)	13	0.58	0.51	1.00	0.56	0.58	0.55	0.61	1.68
4. Life Science (Grade 4)	9	0.55	0.48	0.56	1.00	0.55	0.54	0.53	1.39
5. Earth Science (Grade 5)	11	0.57	0.51	0.58	0.55	1.00	0.59	0.60	1.52
6. Earth Science (Grade 4)	8	0.55	0.49	0.55	0.54	0.59	1.00	0.59	1.27
Biology									
1. Investigation and Experimentation	6	1.00	0.50	0.57	0.61	0.55	-	0.46	1.12
2. Cell Biology	9	0.50	1.00	0.61	0.61	0.54	-	0.53	1.39
3. Genetics	18	0.57	0.61	1.00	0.68	0.62	-	0.71	1.95
4. Ecology and Evolution	16	0.61	0.61	0.68	1.00	0.69	-	0.74	1.82
5. Physiology	11	0.55	0.54	0.62	0.69	1.00	-	0.69	1.47
Chemistry		**1**	**2**	**3**	**4**	**5**	**6**		
1. Investigation and Experimentation	6	1.00	0.48	0.51	0.59	0.53	0.53	0.55	1.09
2. Atomic and Molecular Structure	8	0.53	0.48	1.00	0.50	0.54	0.52	0.50	1.29
3. Chemical Bonds, Biochemistry	9	0.52	0.52	0.51	0.50	1.00	0.58	0.57	1.38
4. Kinetics, Thermodynamics	14	0.58	0.56	0.57	0.59	0.54	0.58	0.66	1.70
5. Chemical Reactions	13	0.58	1.00	0.62	0.61	0.53	0.52	0.67	1.64
6. Conservation of Matter and Stoichiometry	10	0.53	0.52	0.57	0.61	0.58	1.00	0.67	1.40
Earth Science		**1**	**2**	**3**	**4**	**5**	**6**		
1. Investigation and Experimentation	6	1.00	0.58	0.60	0.61	-	-	0.54	1.10
2. Astronomy and Cosmology	12	0.58	1.00	0.66	0.69	-	-	0.66	1.58
3. Solid Earth	14	0.60	0.66	1.00	0.71	-	-	0.68	1.70
4. The Earth's Energy	28	0.61	0.69	0.71	1.00	-	-	0.79	2.45
Physics		**1**	**2**	**3**	**4**	**5**	**6**		
1. Investigation and Experimentation	6	1.00	0.48	0.51	0.59	0.53	0.53	0.52	1.11
2. Motion and Forces	12	0.48	1.00	0.50	0.54	0.52	0.52	0.66	1.56
3. Conservation of Energy and Momentum	12	0.51	0.50	1.00	0.58	0.56	0.57	0.72	1.53
4. Heat and Thermodynamics	9	0.59	0.54	0.58	1.00	0.62	0.61	0.63	1.34
5. Waves	10	0.53	0.52	0.56	0.62	1.00	0.58	0.64	1.44
6. Electric and Magnetic Phenomena	11	0.53	0.52	0.57	0.61	0.58	1.00	0.68	1.49

Subscore Reliabilities and Correlations for Science									
Subscore Area	**# of items**	**Correlation**						***Reliab***	***SEM***
Grade 5 Science									
1. Physical Science (Grade 5)	11	1.00	0.51	0.58	0.55	0.57	0.55	0.60	1.51
2. Physical Science (Grade 4)	8	0.55	0.51	1.00	0.51	0.48	0.51	0.48	1.33
3. Life Science (Grade 5)	13	0.51	0.49	0.58	0.51	1.00	0.56	0.61	1.68
4. Life Science (Grade 4)	9	0.56	0.58	0.55	0.55	0.48	0.56	0.53	1.39
5. Earth Science (Grade 5)	11	0.56	1.00	0.55	0.54	0.57	0.51	0.60	1.52
6. Earth Science (Grade 4)	8	0.55	0.49	0.55	0.54	0.59	1.00	0.59	1.27
Integrated Science 1		**1**	**2**	**3**	**4**	**5**	**6**		
1. Investigation and Experimentation	6	1.00	0.49	0.40	0.53	0.34	-	0.38	1.12
2. Biology/Life Sciences	10	0.49	1.00	0.43	0.59	0.36	-	0.57	1.47
3. Chemistry	15	0.40	0.43	1.00	0.49	0.33	-	0.41	1.79
4. Earth Sciences	17	0.53	0.59	0.49	1.00	0.42	-	0.67	1.89
5. Physics	12	0.34	0.36	0.33	0.42	1.00	-	0.38	1.54
Integrated Science 2		**1**	**2**	**3**	**4**	**5**	**6**		
1. Investigation and Experimentation	6	1.00	0.30	0.26	0.36	0.33	-	0.24	1.15
2. Biology/Life Sciences	15	0.30	1.00	0.35	0.42	0.38	-	0.46	1.81
3. Chemistry	6	0.26	0.35	1.00	0.39	0.38	-	0.30	1.12
4. Earth Sciences	15	0.36	0.42	0.39	1.00	0.45	-	0.62	1.81
5. Physics	18	0.33	0.38	0.38	0.45	1.00	-	0.43	1.92
Integrated Science 3		**1**	**2**	**3**	**4**	**5**	**6**		
1. Investigation and Experimentation	6	1.00	0.49	0.43	0.34	0.26	-	0.39	1.12
2. Biology/Life Sciences	16	0.49	1.00	0.55	0.42	0.34	-	0.59	1.88
3. Chemistry	23	0.43	0.55	1.00	0.38	0.32	-	0.54	2.16
4. Earth Sciences	7	0.34	0.42	0.38	1.00	0.29	-	0.39	1.22
5. Physics	8	0.26	0.34	0.32	0.29	1.00	-	0.19	1.29
Integrated Science 4		**1**	**2**	**3**	**4**	**5**	**6**		
1. Investigation and Experimentation	6	1.00	0.66	0.51	0.70	0.59	-	0.63	1.06
2. Biology/Life Sciences	13	0.66	1.00	0.51	0.70	0.56	-	0.72	1.60
3. Chemistry	10	0.51	0.51	1.00	0.60	0.52	-	0.52	1.45
4. Earth Sciences	15	0.70	0.70	0.60	1.00	0.64	-	0.75	1.73
5. Physics	16	0.59	0.56	0.52	0.64	1.00	-	0.64	1.85

Table 8.A.5: Reliabilities and SEM for the CSTs by GENDER/NSLP

Reliabilities and SEM for the CSTs by GENDER/NSLP									
Subject Area	**CST**	**Male**		**Female**		**Not in NSLP**		**NSLP**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
English-Language Arts	**2**	0.94	3.47	0.94	3.39	0.94	3.13	0.93	3.52
	3	0.93	3.50	0.93	3.43	0.93	3.21	0.91	3.63
	4*	0.94	3.79	0.94	3.65	0.94	3.41	0.93	3.71
	5	0.94	3.71	0.94	3.51	0.94	3.36	0.92	3.83
	6	0.94	3.71	0.93	3.80	0.93	3.66	0.92	3.85
	7*	0.93	3.95	0.93	3.72	0.93	3.67	0.92	3.84
	8	0.93	3.83	0.92	3.83	0.93	3.64	0.90	4.04
	9	0.94	3.77	0.94	3.59	0.94	3.65	0.92	3.89
	10	0.95	3.62	0.94	3.66	0.95	3.47	0.93	3.82
	11	0.94	3.90	0.94	3.63	0.94	3.80	0.92	4.03
	* MC items								
History-Social Science	**8**	0.92	3.95	0.91	3.82	0.92	3.88	0.88	3.90
	10	0.92	3.45	0.89	3.53	0.91	3.50	0.88	3.49
	11	0.92	3.49	0.90	3.58	0.92	3.42	0.89	3.48
Math	**2**	0.94	3.01	0.93	3.15	0.93	2.79	0.93	3.22
	3	0.94	3.09	0.93	3.14	0.93	2.90	0.93	3.22
	4	0.95	3.06	0.94	3.15	0.94	2.89	0.94	3.25
	5	0.95	3.23	0.94	3.30	0.94	3.28	0.93	3.49
	6	0.94	3.42	0.93	3.50	0.94	3.19	0.92	3.56
	7	0.93	3.58	0.93	3.42	0.93	3.49	0.91	3.58
	General Mathematics	0.90	3.64	0.89	3.61	0.90	3.63	0.88	3.62
	Algebra I	0.88	3.60	0.87	3.62	0.89	3.58	0.83	3.67
	Geometry	0.93	3.51	0.92	3.54	0.93	3.44	0.90	3.57
	Algebra II	0.91	3.65	0.90	3.54	0.91	3.53	0.89	3.52
	High School Mathematics	0.93	3.12	0.92	3.30	0.92	3.26	0.92	3.40
	Integrated Mathematics 1	0.84	3.68	0.83	3.64	0.84	3.71	0.80	3.67
	Integrated Mathematics 2	0.89	3.68	0.87	3.56	0.89	3.55	0.86	3.68
	Integrated Mathematics 3	0.90	3.65	0.88	3.67	0.89	3.60	0.90	3.67
Science	**Grade 5 Science**	0.89	3.64	0.87	3.58	0.89	3.44	0.84	3.57
	Biology	0.91	3.54	0.89	3.54	0.91	3.42	0.86	3.65
	Chemistry	0.91	3.53	0.88	3.54	0.90	3.47	0.87	3.52
	Earth Science	0.91	3.50	0.88	3.53	0.90	3.60	0.86	3.61
	Physics	0.92	3.52	0.89	3.58	0.91	3.50	0.88	3.50
	Integrated Science 1	0.85	3.51	0.79	3.57	0.84	3.59	0.78	3.51
	Integrated Science 2	0.80	3.56	0.75	3.62	0.80	3.61	0.68	3.59
	Integrated Science 3	0.81	3.57	0.77	3.59	0.81	3.59	0.75	3.54
	Integrated Science 4	0.91	3.57	0.88	3.57	0.90	3.50	0.83	3.54

Table 8.A.6: Subscore Reliabilities and SEM for English-Language Arts by GENDER/NSLP

Subscore Reliabilities and SEM for English-Language Arts by GENDER/NSLP									
	# of	Male		Female		Not in NSLP		NSLP	
Subscore Area	items	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Grade 2									
1. Word Analysis and Vocabulary	22	0.82	1.98	0.81	1.97	0.80	1.87	0.79	2.04
2. Reading Comprehension	15	0.84	1.61	0.84	1.56	0.83	1.46	0.81	1.67
3. Literary Response and Analysis	6	0.60	1.04	0.60	1.03	0.61	0.98	0.52	1.08
4. Written and Oral Language Conventions	14	0.80	1.59	0.81	1.54	0.81	1.46	0.78	1.64
5. Writing Strategies	8	0.66	1.21	0.65	1.19	0.66	1.12	0.60	1.25
Grade 3									
1. Word Analysis and Vocabulary	20	0.84	1.82	0.84	1.79	0.82	1.64	0.82	1.91
2. Reading Comprehension	15	0.76	1.73	0.76	1.71	0.77	1.64	0.69	1.77
3. Literary Response and Analysis	8	0.63	1.20	0.66	1.16	0.65	1.12	0.58	1.22
4. Written and Oral Language Conventions	13	0.72	1.54	0.70	1.50	0.70	1.42	0.68	1.58
5. Writing Strategies	9	0.63	1.34	0.64	1.32	0.64	1.28	0.56	1.37
Grade 4									
1. Word Analysis and Vocabulary	18	0.83	1.74	0.82	1.71	0.81	1.58	0.79	1.82
2. Reading Comprehension	15	0.82	1.61	0.81	1.57	0.81	1.48	0.77	1.68
3. Literary Response and Analysis	9	0.62	1.30	0.59	1.28	0.57	1.22	0.55	1.33
4. Written and Oral Language Conventions	18	0.79	1.84	0.77	1.80	0.77	1.73	0.74	1.88
5. Writing Strategies	15	0.73	1.76	0.73	1.74	0.74	1.71	0.65	1.78
Grade 5									
1. Word Analysis and Vocabulary	14	0.78	1.57	0.75	1.56	0.76	1.45	0.70	1.65
2. Reading Comprehension	16	0.76	1.73	0.75	1.72	0.76	1.69	0.69	1.76
3. Literary Response and Analysis	12	0.78	1.41	0.76	1.37	0.75	1.28	0.74	1.47
4. Written and Oral Language Conventions	17	0.79	1.68	0.76	1.60	0.76	1.53	0.76	1.72
5. Writing Strategies	16	0.77	1.79	0.77	1.77	0.78	1.72	0.72	1.83
Grade 6									
1. Word Analysis and Vocabulary	13	0.75	1.56	0.72	1.54	0.73	1.47	0.68	1.62
2. Reading Comprehension	17	0.75	1.88	0.73	1.87	0.73	1.83	0.69	1.91
3. Literary Response and Analysis	12	0.67	1.55	0.67	1.55	0.66	1.52	0.60	1.58
4. Written and Oral Language Conventions	16	0.82	1.59	0.79	1.50	0.80	1.40	0.80	1.65
5. Writing Strategies	17	0.80	1.81	0.79	1.80	0.80	1.74	0.73	1.86

Subscore Reliabilities and SEM for English-Language Arts by GENDER/NSLP									
	# of	Male		Female		Not in NSLP		NSLP	
Subscore Area	items	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Grade 7									
1. Word Analysis and Vocabulary	11	0.73	1.38	0.69	1.37	0.71	1.28	0.66	1.46
2. Reading Comprehension	18	0.81	1.81	0.79	1.76	0.79	1.70	0.79	1.87
3. Literary Response and Analysis	13	0.66	1.65	0.65	1.65	0.66	1.64	0.59	1.66
4. Written and Oral Language Conventions	16	0.78	1.76	0.76	1.71	0.78	1.67	0.72	1.80
5. Writing Strategies	17	0.76	1.83	0.75	1.80	0.76	1.77	0.71	1.86
Grade 8									
1. Word Analysis and Vocabulary	9	0.56	1.33	0.51	1.32	0.55	1.29	0.46	1.36
2. Reading Comprehension	18	0.73	1.95	0.71	1.95	0.74	1.92	0.64	1.98
3. Literary Response and Analysis	15	0.72	1.73	0.71	1.72	0.72	1.68	0.65	1.77
4. Written and Oral Language Conventions	16	0.77	1.72	0.75	1.66	0.76	1.63	0.73	1.76
5. Writing Strategies	17	0.81	1.77	0.79	1.72	0.81	1.67	0.76	1.83
Grade 9									
1. Word Analysis and Vocabulary	8	0.70	1.19	0.67	1.18	0.69	1.13	0.62	1.26
2. Reading Comprehension	18	0.80	1.81	0.79	1.80	0.80	1.76	0.74	1.87
3. Literary Response and Analysis	16	0.78	1.75	0.77	1.73	0.79	1.70	0.71	1.80
4. Written and Oral Language Conventions	13	0.70	1.61	0.68	1.56	0.70	1.54	0.66	1.64
5. Writing Strategies	20	0.82	1.96	0.80	1.92	0.81	1.90	0.78	2.00
Grade 10									
1. Word Analysis and Vocabulary	8	0.69	1.14	0.64	1.11	0.67	1.07	0.62	1.21
2. Reading Comprehension	18	0.82	1.84	0.79	1.82	0.82	1.78	0.75	1.91
3. Literary Response and Analysis	16	0.79	1.77	0.77	1.75	0.79	1.73	0.73	1.80
4. Written and Oral Language Conventions	13	0.76	1.56	0.73	1.50	0.76	1.49	0.71	1.60
5. Writing Strategies	20	0.84	1.94	0.82	1.89	0.83	1.86	0.80	2.00
Grade 11									
1. Word Analysis and Vocabulary	8	0.65	1.24	0.59	1.24	0.63	1.21	0.55	1.29
2. Reading Comprehension	19	0.77	1.95	0.74	1.93	0.76	1.92	0.73	1.99
3. Literary Response and Analysis	17	0.78	1.82	0.77	1.81	0.78	1.79	0.71	1.87
4. Written and Oral Language Conventions	9	0.70	1.30	0.69	1.26	0.72	1.25	0.64	1.34
5. Writing Strategies	22	0.87	1.99	0.85	1.96	0.87	1.93	0.83	2.06

Table 8.A.7: Subscore Reliabilities and SEM for History-Social Science by GENDER/NSLP

Subscore Area	# of items	Male		Female		Not in NSLP		NSLP	
		Reliab.	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Grade 8									
1. World History and Geography: Ancient Civilizations	16	0.68	1.79	0.65	1.80	0.68	1.79	0.57	1.80
2. Late Antiquity and the Middle Ages	14	0.70	1.68	0.64	1.72	0.69	1.68	0.58	1.73
3. Renaissance/Reformation	10	0.55	1.42	0.49	1.43	0.56	1.42	0.38	1.43
4. U.S. Constitution and the Early Republic	22	0.82	2.07	0.79	2.07	0.82	2.04	0.74	2.11
5. Civil War and Its Aftermath	13	0.70	1.63	0.65	1.65	0.70	1.61	0.60	1.66
Grade 10 (World History)									
1. Development of Modern Political Thought	13	0.73	1.62	0.66	1.66	0.71	1.62	0.62	1.68
2. Industrial Expansion and Imperialism	10	0.71	1.39	0.64	1.44	0.69	1.39	0.60	1.46
3. Causes and Effects of World War I	14	0.72	1.67	0.65	1.70	0.71	1.67	0.62	1.72
4. Causes and Effects of World War II	13	0.71	1.60	0.63	1.63	0.69	1.61	0.61	1.63
5. International Developments in the Post-World War II Era	10	0.66	1.39	0.56	1.41	0.63	1.39	0.54	1.42
Grade 11 (U.S. History)									
1. Foundations of American Political and Social Thought	10	0.65	1.43	0.61	1.45	0.65	1.43	0.55	1.46
2. Industrialization and the U.S. role as a World Power	13	0.68	1.61	0.62	1.62	0.67	1.61	0.56	1.64
3. United States between the World Wars	12	0.68	1.56	0.63	1.57	0.67	1.55	0.60	1.59
4. World War II and Foreign Affairs	12	0.79	1.47	0.75	1.51	0.78	1.48	0.72	1.52
5. Post-World War II Domestic Affairs	13	0.73	1.60	0.69	1.62	0.72	1.60	0.65	1.64

Table 8.A.8: Subscore Reliabilities and SEM for Mathematics by GENDER/NSLP

Subscore Reliabilities and SEM for Mathematics by GENDER/NSLP									
	# of	Male		Female		Not in NSLP		NSLP	
Subscore Area	items	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Grade 2									
1. Number Sense: Place Value, Addition, and Subtraction	15	0.80	1.48	0.79	1.51	0.78	1.38	0.78	1.57
2. Number Sense: Multiplication, Division, and Fractions	23	0.84	1.82	0.82	1.83	0.81	1.66	0.82	1.93
3. Algebra and Functions	6	0.69	0.95	0.67	0.97	0.67	0.89	0.66	1.01
4. Measurement and Geometry	14	0.73	1.39	0.71	1.40	0.69	1.28	0.70	1.48
5. Statistics, Data Analysis, and Probability	7	0.65	0.97	0.61	0.99	0.62	0.92	0.61	1.02
Grade 3									
1. Number Sense: Place Value, Fractions, and Decimals	16	0.81	1.50	0.78	1.53	0.77	1.40	0.78	1.60
2. Number Sense: Addition, Subtraction, Multiplication, and Division	16	0.83	1.62	0.80	1.63	0.81	1.52	0.80	1.70
3. Algebra and Functions	12	0.77	1.34	0.76	1.38	0.76	1.24	0.73	1.45
4. Measurement and Geometry	16	0.76	1.52	0.72	1.52	0.73	1.44	0.72	1.58
5. Statistics, Data Analysis, and Probability	5	0.55	0.79	0.51	0.78	0.52	0.69	0.50	0.83
Grade 4									
1. Number Sense: Decimals, Fractions, and Negative Numbers	16	0.81	1.47	0.77	1.51	0.78	1.35	0.77	1.59
2. Number Sense: Operations and Factoring	15	0.84	1.51	0.83	1.49	0.83	1.38	0.82	1.58
3. Algebra and Functions	18	0.88	1.58	0.86	1.57	0.86	1.43	0.86	1.68
4. Measurement and Geometry	12	0.74	1.48	0.71	1.48	0.72	1.40	0.69	1.53
5. Statistics, Data Analysis, and Probability	4	0.54	0.73	0.47	0.72	0.48	0.66	0.49	0.77
Grade 5									
1. Number Sense: Estimation, Percents, and Factoring	12	0.78	1.44	0.74	1.44	0.77	1.38	0.71	1.49
2. Number Sense: Operations with Fractions and Decimals	17	0.85	1.69	0.85	1.67	0.85	1.59	0.83	1.75
3. Algebra and Functions	17	0.83	1.68	0.81	1.69	0.82	1.59	0.79	1.76
4. Measurement and Geometry	15	0.79	1.66	0.77	1.67	0.79	1.59	0.74	1.72
5. Statistics, Data Analysis, and Probability	4	0.62	0.72	0.56	0.70	0.58	0.64	0.58	0.76
Grade 6									
1. Number Sense: Ratios, Proportions, Percentages, and Negative Fractions	15	0.79	1.61	0.77	1.64	0.78	1.55	0.74	1.69
2. Number Sense: Operations and Problem Solving with Fractions	10	0.72	1.34	0.69	1.37	0.70	1.27	0.66	1.42
3. Algebra and Functions	19	0.84	1.80	0.81	1.80	0.82	1.70	0.80	1.88
4. Measurement and Geometry	10	0.67	1.44	0.64	1.44	0.68	1.40	0.59	1.47
5. Statistics, Data Analysis, and Probability	11	0.77	1.41	0.75	1.41	0.78	1.34	0.69	1.46

Subscore Reliabilities and SEM for Mathematics by GENDER/NSLP									
	# of	Male		Female		Not in NSLP		NSLP	
Subscore Area	items	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Grade 7									
1. Number Sense: Rational Numbers	14	0.75	1.60	0.73	1.60	0.75	1.55	0.68	1.65
2. Number Sense: Exponent, Powers and Roots	8	0.66	1.25	0.65	1.26	0.69	1.24	0.58	1.27
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions	10	0.65	1.41	0.63	1.41	0.65	1.37	0.59	1.44
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	15	0.81	1.59	0.79	1.61	0.80	1.53	0.76	1.67
5. Measurement and Geometry	13	0.74	1.62	0.69	1.63	0.73	1.59	0.64	1.66
6. Statistics, Data Analysis, and Probability	5	0.69	0.92	0.69	0.90	0.71	0.87	0.64	0.95
General Mathematics									
1. Number Sense: Rational Numbers	14	0.69	1.66	0.66	1.66	0.69	1.65	0.65	1.68
2. Number Sense: Exponent, Powers and Roots	10	0.64	1.41	0.63	1.41	0.66	1.40	0.58	1.42
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions	11	0.66	1.48	0.64	1.48	0.66	1.46	0.63	1.50
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	10	0.62	1.33	0.59	1.33	0.61	1.31	0.58	1.34
5. Measurement and Geometry	11	0.52	1.54	0.47	1.54	0.53	1.55	0.43	1.54
6. Statistics, Data Analysis, and Probability	9	0.62	1.34	0.62	1.33	0.65	1.32	0.58	1.35
Algebra I									
1. Number Properties, Operations, and Linear Equations	17	0.75	1.85	0.73	1.86	0.75	1.83	0.69	1.89
2. Graphing and Systems of Linear Equations	14	0.67	1.71	0.65	1.72	0.69	1.71	0.59	1.72
3. Quadratics and Polynomials	21	0.68	2.05	0.67	2.03	0.70	2.04	0.60	2.05
4. Functions and Rational Expressions	13	0.51	1.59	0.52	1.58	0.57	1.59	0.39	1.58
Geometry									
1. Logic and Geometric Proofs	23	0.82	2.10	0.79	2.13	0.81	2.09	0.74	2.17
2. Volume and Area Formulas	11	0.74	1.45	0.70	1.47	0.74	1.44	0.63	1.50
3. Angle Relationships, Constructions, and Lines	15	0.77	1.72	0.74	1.75	0.76	1.71	0.70	1.78
4. Trigonometry	15	0.78	1.69	0.76	1.71	0.78	1.68	0.71	1.75
Algebra II									
1. Polynomials and Rational Expressions	19	0.80	1.85	0.78	1.87	0.80	1.85	0.76	1.89
2. Quadratics, Conics, and Complex Numbers	16	0.70	1.82	0.66	1.83	0.69	1.82	0.64	1.84
3. Exponents and Logarithms	15	0.77	1.71	0.73	1.74	0.76	1.71	0.71	1.77
4. Series, Combinatorics, and Probability and Statistics	14	0.68	1.66	0.62	1.63	0.66	1.65	0.56	1.62

Subscore Reliabilities and SEM for Mathematics by GENDER/NSLP									
	# of	Male		Female		Not in NSLP		NSLP	
Subscore Area	items	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Summative High School Math									
1. Algebra I	18	0.78	1.61	0.77	1.68	0.77	1.62	0.77	1.74
2. Geometry	19	0.77	1.65	0.76	1.71	0.76	1.66	0.77	1.78
3. Algebra II	23	0.84	2.04	0.82	2.10	0.83	2.06	0.82	2.12
4. Probability and Statistics	5	0.55	0.87	0.52	0.93	0.52	0.88	0.54	0.95
Integrated Math 1									
1. Algebra I: Number Properties, Operations and Linear Equations	15	0.73	1.74	0.73	1.74	0.74	1.73	0.67	1.77
2. Algebra I: Graphing	9	0.54	1.38	0.52	1.39	0.55	1.39	0.48	1.38
3. Algebra I: Quadratics and Polynomials	14	0.52	1.70	0.52	1.70	0.53	1.70	0.50	1.69
4. Algebra I: Functions and Relations Expressions	7	0.30	1.13	0.37	1.12	0.37	1.13	0.26	1.13
5. Geometry	19	0.61	1.98	0.53	1.98	0.60	1.99	0.50	1.96
Integrated Math 2									
1. Algebra I	20	0.71	1.96	0.64	1.96	0.69	1.96	0.66	1.96
2. Geometry: Logic and Geometric Proofs	22	0.79	2.11	0.75	2.13	0.78	2.12	0.75	2.13
3. Geometry: Angle Relationships, Construction and Lines	8	0.46	1.31	0.37	1.33	0.44	1.32	0.35	1.34
4. Trigonometry	10	0.63	1.42	0.58	1.43	0.63	1.42	0.53	1.43
5. Algebra II/Probability and Statistics	4	0.37	0.89	0.30	0.87	0.34	0.88	0.32	0.88
Integrated Math 3									
1. Geometry	5	0.51	0.84	0.42	0.89	0.47	0.86	0.45	0.88
2. Algebra II: Polynomials and Relations Expressions	19	0.77	1.89	0.74	1.89	0.75	1.90	0.76	1.87
3. Algebra II: Quadratics, Conics and Statistics	16	0.65	1.84	0.61	1.84	0.61	1.85	0.68	1.81
4. Algebra II: Exponents and Logarithms	15	0.76	1.73	0.71	1.76	0.73	1.75	0.75	1.73
5. Algebra II: Series, Combinatorics, Probability and Statistics	10	0.62	1.44	0.54	1.43	0.56	1.44	0.64	1.40

Table 8.A.9: Subscore Reliabilities and SEM for Science by GENDER/NSLP

Subscore Reliabilities and SEM for Science by GENDER/NSLP									
	# of	Male		Female		Not in NSLP		NSLP	
Subscore Area	items	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Grade 5 Science									
1. Physical Science (Grade 5)	11	0.62	1.50	0.58	1.51	0.58	1.47	0.53	1.53
2. Physical Science (Grade 4)	8	0.50	1.33	0.45	1.33	0.49	1.31	0.38	1.34
3. Life Science (Grade 5)	13	0.62	1.67	0.59	1.69	0.61	1.65	0.51	1.70
4. Life Science (Grade 4)	9	0.57	1.38	0.48	1.40	0.54	1.34	0.42	1.42
5. Earth Science (Grade 5)	11	0.62	1.51	0.57	1.53	0.60	1.50	0.50	1.53
6. Earth Science (Grade 4)	8	0.63	1.26	0.55	1.27	0.62	1.25	0.47	1.28
Biology									
1. Investigation and Experimentation	6	0.48	1.12	0.45	1.13	0.48	1.11	0.35	1.14
2. Cell Biology	9	0.55	1.38	0.50	1.40	0.55	1.39	0.41	1.41
3. Genetics	18	0.73	1.94	0.69	1.95	0.73	1.93	0.62	1.98
4. Ecology and Evolution	16	0.77	1.80	0.71	1.84	0.75	1.80	0.68	1.85
5. Physiology	11	0.72	1.45	0.65	1.48	0.69	1.44	0.64	1.51
Chemistry									
1. Investigation and Experimentation	6	0.59	1.07	0.52	1.11	0.55	1.07	0.49	1.13
2. Atomic and Molecular Structure	8	0.54	1.27	0.45	1.31	0.50	1.28	0.43	1.32
3. Chemical Bonds, Biochemistry	9	0.61	1.37	0.53	1.39	0.58	1.37	0.51	1.40
4. Kinetics, Thermodynamics	14	0.71	1.67	0.61	1.73	0.67	1.69	0.59	1.73
5. Chemical Reactions	13	0.70	1.63	0.62	1.65	0.67	1.64	0.57	1.64
6. Conservation of Matter and Stoichiometry	10	0.69	1.38	0.65	1.41	0.67	1.38	0.62	1.43
Earth Science									
1. Investigation and Experimentation	6	0.56	1.10	0.53	1.10	0.57	1.08	0.46	1.13
2. Astronomy and Cosmology	12	0.69	1.56	0.62	1.60	0.68	1.57	0.59	1.60
3. Solid Earth	14	0.71	1.68	0.63	1.71	0.69	1.68	0.61	1.72
4. The Earth's Energy	28	0.81	2.44	0.75	2.46	0.80	2.44	0.72	2.46
Physics									
1. Investigation and Experimentation	6	0.57	1.08	0.43	1.13	0.52	1.09	0.39	1.14
2. Motion and Forces	12	0.69	1.53	0.61	1.59	0.65	1.54	0.58	1.61
3. Conservation of Energy and Momentum	12	0.75	1.51	0.69	1.55	0.72	1.52	0.66	1.55
4. Heat and Thermodynamics	9	0.67	1.32	0.57	1.36	0.63	1.32	0.55	1.37
5. Waves	10	0.67	1.43	0.59	1.45	0.64	1.44	0.53	1.44
6. Electric and Magnetic Phenomena	11	0.71	1.48	0.62	1.50	0.69	1.49	0.58	1.50

Subscore Reliabilities and SEM for Science by GENDER/NSLP									
	# of	Male		Female		Not in NSLP		NSLP	
Subscore Area	items	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*	*Reliab.*	*SEM*
Integrated Science 1									
1. Investigation and Experimentation	6	0.39	1.12	0.38	1.12	0.42	1.11	0.31	1.12
2. Biology/Life Sciences	10	0.61	1.46	0.53	1.48	0.58	1.47	0.52	1.46
3. Chemistry	15	0.45	1.79	0.36	1.79	0.45	1.80	0.35	1.78
4. Earth Sciences	17	0.71	1.87	0.62	1.90	0.70	1.88	0.61	1.89
5. Physics	12	0.43	1.55	0.30	1.53	0.44	1.56	0.26	1.52
Integrated Science 2									
1. Investigation and Experimentation	6	0.26	1.15	0.20	1.16	0.27	1.15	0.13	1.15
2. Biology/Life Sciences	15	0.48	1.80	0.44	1.81	0.51	1.81	0.33	1.81
3. Chemistry	6	0.32	1.12	0.28	1.13	0.32	1.13	0.23	1.11
4. Earth Sciences	15	0.65	1.80	0.56	1.83	0.64	1.80	0.52	1.82
5. Physics	18	0.45	1.92	0.41	1.92	0.48	1.93	0.28	1.90
Integrated Science 3									
1. Investigation and Experimentation	6	0.40	1.12	0.37	1.13	0.44	1.11	0.29	1.13
2. Biology/Life Sciences	16	0.60	1.87	0.59	1.88	0.63	1.87	0.51	1.89
3. Chemistry	23	0.57	2.15	0.51	2.17	0.58	2.16	0.47	2.16
4. Earth Sciences	7	0.46	1.21	0.31	1.23	0.40	1.22	0.38	1.23
5. Physics	8	0.24	1.29	0.12	1.29	0.22	1.29	0.13	1.29
Integrated Science 4									
1. Investigation and Experimentation	6	0.66	1.05	0.61	1.07	0.62	1.05	0.49	1.10
2. Biology/Life Sciences	13	0.75	1.57	0.69	1.62	0.72	1.57	0.63	1.65
3. Chemistry	10	0.57	1.44	0.46	1.45	0.54	1.45	0.33	1.44
4. Earth Sciences	15	0.78	1.70	0.71	1.76	0.75	1.71	0.62	1.77
5. Physics	16	0.67	1.84	0.59	1.86	0.64	1.85	0.48	1.83

Table 8.A.10: Reliabilities and SEM for the CSTs by SPECIAL SERVICES/LANGUAGE FLUENCY

Subject Area	CST	No Spec. Ser.		Spec. Ser.		Eng. Only		Ini. Fluent		Learner		Red. Fluent	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
English-Language Arts	**2**	0.94	3.38	0.93	3.70	0.94	3.31	0.93	3.25	0.92	3.68	0.92	3.13
	3	0.93	3.38	0.93	3.52	0.93	3.38	0.92	3.33	0.90	3.60	0.88	3.23
	4*	0.94	3.63	0.93	3.97	0.94	3.62	0.93	3.62	0.90	3.96	0.89	3.52
	5	0.93	3.77	0.92	3.98	0.94	3.56	0.93	3.55	0.89	3.84	0.89	3.45
	6	0.93	3.79	0.91	3.94	0.94	3.56	0.93	3.56	0.87	3.98	0.89	3.68
	7*	0.93	3.73	0.90	3.92	0.93	3.79	0.92	3.76	0.87	3.98	0.89	3.71
	8	0.92	3.86	0.88	3.96	0.93	3.71	0.92	3.69	0.84	3.94	0.88	3.79
	9	0.94	3.61	0.88	3.92	0.94	3.68	0.93	3.76	0.85	4.04	0.91	3.71
	10	0.94	3.73	0.89	3.99	0.95	3.51	0.94	3.57	0.86	4.03	0.91	3.81
	11	0.94	3.69	0.89	3.85	0.94	3.83	0.94	3.61	0.86	3.98	0.91	3.81
	* MC items												
History-Social Science	**8**	0.91	3.99	0.85	3.94	0.92	3.85	0.92	3.85	0.78	3.89	0.89	3.89
	10	0.91	3.40	0.83	3.57	0.91	3.50	0.91	3.41	0.79	3.61	0.88	3.53
	11	0.91	3.52	0.83	3.51	0.92	3.40	0.92	3.38	0.79	3.51	0.89	3.55
Math	**2**	0.93	3.06	0.95	3.28	0.93	3.06	0.92	2.83	0.93	3.25	0.91	2.73
	3	0.93	3.08	0.94	3.47	0.93	3.16	0.93	2.79	0.92	3.40	0.90	2.68
	4	0.94	3.09	0.94	3.60	0.94	3.19	0.94	2.83	0.93	3.43	0.91	2.68
	5	0.94	3.32	0.93	3.45	0.94	3.43	0.94	3.27	0.91	3.62	0.92	3.17
	6	0.93	3.48	0.91	3.59	0.94	3.31	0.94	3.17	0.89	3.62	0.91	3.38
	7	0.93	3.43	0.87	3.65	0.93	3.51	0.93	3.49	0.87	3.64	0.91	3.48
	General Mathematics	0.89	3.65	0.83	3.61	0.90	3.62	0.89	3.67	0.85	3.62	0.88	3.57
	Algebra I	0.87	3.70	0.73	3.65	0.88	3.60	0.89	3.66	0.78	3.63	0.87	3.66
	Geometry	0.92	3.63	0.88	3.62	0.92	3.62	0.93	3.55	0.88	3.57	0.91	3.66
	Algebra II	0.91	3.50	0.90	3.59	0.90	3.63	0.92	3.49	0.90	3.60	0.90	3.59
	High School Mathematics	0.92	3.33	0.95	3.44	0.92	3.24	0.93	3.12	0.94	3.36	0.93	3.24
	Integrated Mathematics 1	0.84	3.68	0.61	3.58	0.84	3.71	0.86	3.70	0.60	3.63	0.83	3.73
	Integrated Mathematics 2	0.88	3.64	0.75	3.59	0.88	3.62	0.91	3.49	0.83	3.61	0.87	3.65
	Integrated Mathematics 3	0.89	3.65	0.84	3.59	0.88	3.69	0.91	3.51	0.91	3.56	0.90	3.56
Science	**Grade 5 Science**	0.89	3.58	0.87	3.51	0.89	3.51	0.88	3.51	0.77	3.58	0.83	3.54
	Biology	0.90	3.52	0.83	3.55	0.90	3.58	0.90	3.58	0.78	3.56	0.87	3.59
	Chemistry	0.90	3.46	0.88	3.55	0.89	3.60	0.90	3.55	0.82	3.60	0.88	3.54
	Earth Science	0.89	3.64	0.84	3.50	0.90	3.61	0.89	3.50	0.79	3.58	0.87	3.53
	Physics	0.91	3.52	0.85	3.44	0.91	3.50	0.91	3.51	0.80	3.47	0.89	3.55
	Integrated Science 1	0.82	3.60	0.73	3.49	0.84	3.57	0.82	3.61	0.68	3.52	0.78	3.58
	Integrated Science 2	0.78	3.59	0.61	3.53	0.80	3.60	0.76	3.63	0.60	3.55	0.73	3.64
	Integrated Science 3	0.80	3.53	0.58	3.43	0.82	3.54	0.80	3.53	0.64	3.50	0.75	3.63
	Integrated Science 4	0.90	3.49	0.88	3.45	0.91	3.42	0.89	3.50	0.76	3.53	0.79	3.57

Table 8.A.11: Subscore Reliabilities and SEM for ELA by SPECIAL SERVICES/LANGUAGE FLUENCY

Subscore Reliabilities and SEM for ELA by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser.		Spec. Ser.		Eng. Only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	items	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 2													
1. Word Analysis and Vocabulary	22	0.81	1.97	0.81	2.08	0.81	1.92	0.79	1.87	0.78	2.06	0.74	1.88
2. Reading Comprehension	15	0.84	1.58	0.82	1.67	0.84	1.52	0.81	1.49	0.80	1.69	0.78	1.50
3. Literary Response and Analysis	6	0.60	1.04	0.55	1.08	0.62	1.01	0.56	1.00	0.47	1.08	0.49	1.01
4. Written and Oral Language Conventions	14	0.81	1.56	0.78	1.66	0.81	1.53	0.80	1.44	0.78	1.65	0.78	1.43
5. Writing Strategies	8	0.65	1.19	0.63	1.25	0.67	1.16	0.63	1.14	0.58	1.26	0.56	1.15
Grade 3													
1. Word Analysis and Vocabulary	20	0.83	1.79	0.84	1.94	0.83	1.72	0.81	1.66	0.79	1.96	0.72	1.60
2. Reading Comprehension	15	0.76	1.72	0.72	1.74	0.77	1.68	0.75	1.67	0.63	1.78	0.68	1.67
3. Literary Response and Analysis	8	0.64	1.17	0.62	1.24	0.65	1.15	0.62	1.13	0.53	1.23	0.52	1.11
4. Written and Oral Language Conventions	13	0.70	1.51	0.73	1.60	0.72	1.48	0.69	1.41	0.65	1.61	0.57	1.35
5. Writing Strategies	9	0.63	1.33	0.59	1.36	0.64	1.31	0.64	1.29	0.51	1.38	0.56	1.27
Grade 4													
1. Word Analysis and Vocabulary	18	0.82	1.71	0.82	1.85	0.82	1.65	0.79	1.62	0.74	1.88	0.69	1.59
2. Reading Comprehension	15	0.81	1.58	0.79	1.68	0.82	1.54	0.80	1.51	0.72	1.72	0.70	1.48
3. Literary Response and Analysis	9	0.59	1.28	0.60	1.34	0.59	1.26	0.55	1.24	0.50	1.35	0.42	1.21
4. Written and Oral Language Conventions	18	0.77	1.81	0.76	1.90	0.78	1.79	0.76	1.74	0.70	1.91	0.66	1.69
5. Writing Strategies	15	0.73	1.75	0.68	1.75	0.74	1.74	0.73	1.72	0.56	1.79	0.64	1.72
Grade 5													
1. Word Analysis and Vocabulary	14	0.76	1.56	0.73	1.67	0.77	1.51	0.73	1.50	0.58	1.70	0.63	1.53
2. Reading Comprehension	16	0.75	1.72	0.70	1.76	0.77	1.71	0.75	1.70	0.57	1.76	0.66	1.72
3. Literary Response and Analysis	12	0.76	1.37	0.74	1.52	0.77	1.34	0.74	1.30	0.68	1.53	0.61	1.29
4. Written and Oral Language Conventions	17	0.76	1.62	0.75	1.83	0.78	1.60	0.74	1.53	0.71	1.79	0.59	1.48
5. Writing Strategies	16	0.77	1.78	0.70	1.80	0.78	1.76	0.77	1.73	0.62	1.84	0.68	1.75
Grade 6													
1. Word Analysis and Vocabulary	13	0.72	1.55	0.68	1.63	0.74	1.51	0.70	1.50	0.56	1.66	0.59	1.55
2. Reading Comprehension	17	0.73	1.87	0.67	1.88	0.74	1.86	0.72	1.85	0.58	1.92	0.64	1.89
3. Literary Response and Analysis	12	0.66	1.55	0.60	1.53	0.67	1.53	0.63	1.54	0.46	1.57	0.51	1.57
4. Written and Oral Language Conventions	16	0.80	1.52	0.78	1.78	0.81	1.48	0.78	1.41	0.75	1.78	0.69	1.42
5. Writing Strategies	17	0.79	1.80	0.70	1.85	0.80	1.77	0.79	1.77	0.57	1.88	0.71	1.83

Subscore Reliabilities and SEM for ELA by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser.		Spec. Ser.		Eng. Only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	**items**	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 7													
1. Word Analysis and Vocabulary	11	0.70	1.36	0.63	1.50	0.72	1.31	0.67	1.31	0.55	1.54	0.56	1.37
2. Reading Comprehension	18	0.79	1.77	0.76	1.92	0.80	1.74	0.77	1.70	0.72	1.95	0.69	1.74
3. Literary Response and Analysis	13	0.65	1.65	0.53	1.62	0.66	1.64	0.63	1.64	0.41	1.63	0.55	1.67
4. Written and Oral Language Conventions	16	0.76	1.73	0.65	1.82	0.78	1.70	0.76	1.68	0.60	1.84	0.68	1.73
5. Writing Strategies	17	0.75	1.81	0.65	1.85	0.77	1.79	0.74	1.78	0.60	1.88	0.66	1.82
Grade 8													
1. Word Analysis and Vocabulary	9	0.52	1.32	0.44	1.38	0.55	1.31	0.50	1.29	0.34	1.38	0.38	1.31
2. Reading Comprehension	18	0.72	1.95	0.57	1.94	0.73	1.93	0.72	1.93	0.44	1.97	0.63	1.98
3. Literary Response and Analysis	15	0.71	1.72	0.63	1.75	0.72	1.70	0.69	1.71	0.50	1.78	0.58	1.76
4. Written and Oral Language Conventions	16	0.75	1.68	0.65	1.81	0.77	1.65	0.75	1.62	0.63	1.82	0.66	1.66
5. Writing Strategies	17	0.79	1.74	0.72	1.85	0.81	1.70	0.78	1.70	0.64	1.89	0.71	1.75
Grade 9													
1. Word Analysis and Vocabulary	8	0.68	1.17	0.54	1.29	0.68	1.14	0.66	1.14	0.44	1.31	0.58	1.20
2. Reading Comprehension	18	0.79	1.79	0.65	1.89	0.80	1.77	0.78	1.75	0.59	1.92	0.72	1.80
3. Literary Response and Analysis	16	0.77	1.74	0.62	1.80	0.78	1.71	0.78	1.71	0.53	1.82	0.70	1.76
4. Written and Oral Language Conventions	13	0.68	1.57	0.55	1.67	0.70	1.56	0.67	1.53	0.57	1.68	0.59	1.56
5. Writing Strategies	20	0.81	1.94	0.69	2.01	0.82	1.92	0.80	1.90	0.66	2.03	0.75	1.94
Grade 10													
1. Word Analysis and Vocabulary	8	0.65	1.11	0.56	1.28	0.67	1.07	0.62	1.08	0.45	1.30	0.53	1.13
2. Reading Comprehension	18	0.80	1.82	0.68	1.94	0.82	1.79	0.80	1.78	0.60	1.96	0.74	1.85
3. Literary Response and Analysis	16	0.78	1.75	0.64	1.78	0.79	1.74	0.77	1.74	0.55	1.81	0.71	1.79
4. Written and Oral Language Conventions	13	0.74	1.52	0.62	1.64	0.76	1.51	0.74	1.48	0.59	1.65	0.67	1.52
5. Writing Strategies	20	0.82	1.91	0.71	2.03	0.84	1.88	0.81	1.87	0.67	2.06	0.75	1.94
Grade 11													
1. Word Analysis and Vocabulary	8	0.61	1.23	0.42	1.31	0.63	1.21	0.62	1.21	0.33	1.32	0.52	1.25
2. Reading Comprehension	19	0.75	1.93	0.65	2.00	0.77	1.92	0.74	1.91	0.59	2.02	0.67	1.95
3. Literary Response and Analysis	17	0.77	1.81	0.63	1.86	0.79	1.79	0.77	1.79	0.53	1.90	0.69	1.84
4. Written and Oral Language Conventions	9	0.69	1.28	0.51	1.36	0.72	1.26	0.70	1.25	0.48	1.39	0.60	1.29
5. Writing Strategies	22	0.86	1.96	0.75	2.08	0.87	1.94	0.86	1.92	0.73	2.12	0.81	1.98

Table 8.A.12: Subscore Reliabilities and SEM for History-Social Science by SPECIAL SERVICES/LANGUAGE FLUENCY

Subscore Area	# of items	No Spec. Ser.		Spec. Ser.		Eng. Only		Ini. Fluent		Learner		Red. Fluent	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 8													
1. World History and Geography: Ancient Civilizations	16	0.66	1.80	0.54	1.78	0.67	1.80	0.68	1.79	0.39	1.78	0.59	1.81
2. Late Antiquity and the Middle Ages	14	0.67	1.70	0.55	1.69	0.69	1.69	0.69	1.68	0.42	1.72	0.61	1.72
3. Renaissance/Reformation	10	0.52	1.43	0.31	1.42	0.54	1.43	0.55	1.42	0.18	1.42	0.45	1.43
4. U.S. Constitution and the Early Republic	22	0.80	2.07	0.67	2.11	0.82	2.05	0.82	2.04	0.57	2.12	0.76	2.08
5. Civil War and Its Aftermath	13	0.68	1.63	0.54	1.64	0.69	1.63	0.69	1.62	0.45	1.66	0.63	1.65
Grade 10 (World History)													
1. Development of Modern Political Thought	13	0.69	1.64	0.55	1.65	0.71	1.62	0.69	1.62	0.47	1.69	0.62	1.67
2. Industrial Expansion and Imperialism	10	0.67	1.41	0.53	1.45	0.69	1.39	0.67	1.38	0.45	1.48	0.60	1.44
3. Causes and Effects of World War I	14	0.69	1.68	0.53	1.71	0.70	1.68	0.70	1.66	0.47	1.72	0.65	1.69
4. Causes and Effects of World War II	13	0.67	1.62	0.54	1.61	0.69	1.61	0.68	1.60	0.50	1.63	0.61	1.62
5. International Developments in the Post-World War II Era	10	0.61	1.40	0.45	1.40	0.63	1.40	0.63	1.38	0.40	1.42	0.57	1.40
Grade 11 (U.S. History)													
1. Foundations of American Political and Social Thought	10	0.63	1.44	0.44	1.43	0.64	1.43	0.65	1.42	0.34	1.45	0.58	1.45
2. Industrialization and the U.S. role as a World Power	13	0.65	1.61	0.46	1.64	0.67	1.61	0.68	1.60	0.38	1.64	0.60	1.62
3. United States between the World Wars	12	0.65	1.56	0.50	1.57	0.67	1.55	0.65	1.55	0.45	1.60	0.58	1.58
4. World War II and Foreign Affairs	12	0.77	1.49	0.61	1.52	0.78	1.48	0.78	1.47	0.55	1.53	0.74	1.51
5. Post-World War II Domestic Affairs	13	0.71	1.61	0.53	1.62	0.72	1.60	0.72	1.59	0.47	1.65	0.67	1.62

Table 8.A.13: Subscore Reliabilities and SEM for Mathematics by SPECIAL SERVICES/LANGUAGE FLUENCY

Subscore Reliabilities and SEM for Mathematics by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser		Spec. Ser.		Eng. only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	items	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 2													
1. Number Sense: Place Value, Addition, and Subtraction	15	0.79	1.48	0.83	1.60	0.79	1.45	0.77	1.36	0.79	1.58	0.74	1.35
2. Number Sense: Multiplication, Division, and Fractions	23	0.82	1.81	0.87	1.99	0.83	1.75	0.79	1.67	0.82	1.95	0.75	1.65
3. Algebra and Functions	6	0.68	0.96	0.69	1.02	0.68	0.93	0.66	0.88	0.66	1.02	0.63	0.87
4. Measurement and Geometry	14	0.70	1.39	0.78	1.53	0.71	1.35	0.65	1.29	0.70	1.49	0.61	1.28
5. Statistics, Data Analysis, and Probability	7	0.62	0.98	0.69	1.07	0.63	0.96	0.58	0.91	0.61	1.03	0.55	0.90
Grade 3													
1. Number Sense: Place Value, Fractions, and Decimals	16	0.78	1.50	0.82	1.68	0.79	1.47	0.76	1.38	0.78	1.62	0.69	1.29
2. Number Sense: Addition, Subtraction, Multiplication, and Division	16	0.81	1.62	0.82	1.74	0.82	1.60	0.81	1.48	0.79	1.72	0.76	1.38
3. Algebra and Functions	12	0.75	1.35	0.77	1.49	0.77	1.31	0.75	1.23	0.72	1.47	0.69	1.16
4. Measurement and Geometry	16	0.72	1.51	0.78	1.66	0.74	1.50	0.71	1.42	0.71	1.59	0.62	1.36
5. Statistics, Data Analysis, and Probability	5	0.51	0.77	0.57	0.89	0.54	0.74	0.45	0.69	0.48	0.85	0.34	0.65
Grade 4													
1. Number Sense: Decimals, Fractions, and Negative Numbers	16	0.78	1.47	0.81	1.67	0.80	1.44	0.75	1.38	0.75	1.63	0.66	1.29
2. Number Sense: Operations and Factoring	15	0.83	1.48	0.81	1.65	0.84	1.47	0.84	1.37	0.80	1.62	0.80	1.27
3. Algebra and Functions	18	0.86	1.55	0.87	1.79	0.87	1.53	0.85	1.42	0.85	1.73	0.79	1.30
4. Measurement and Geometry	12	0.71	1.47	0.71	1.55	0.73	1.45	0.72	1.40	0.67	1.56	0.66	1.36
5. Statistics, Data Analysis, and Probability	4	0.49	0.71	0.52	0.84	0.51	0.70	0.45	0.67	0.46	0.80	0.30	0.62
Grade 5													
1. Number Sense: Estimation, Percents, and Factoring	12	0.75	1.44	0.69	1.51	0.77	1.43	0.77	1.38	0.66	1.51	0.72	1.36
2. Number Sense: Operations with Fractions and Decimals	17	0.85	1.67	0.80	1.78	0.85	1.66	0.86	1.58	0.80	1.78	0.82	1.55
3. Algebra and Functions	17	0.81	1.67	0.78	1.81	0.82	1.66	0.82	1.58	0.74	1.81	0.77	1.55
4. Measurement and Geometry	15	0.77	1.66	0.72	1.73	0.79	1.64	0.79	1.59	0.69	1.75	0.73	1.58
5. Statistics, Data Analysis, and Probability	4	0.57	0.70	0.60	0.84	0.61	0.69	0.56	0.64	0.56	0.80	0.42	0.59

Subscore Reliabilities and SEM for Mathematics by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser		Spec. Ser.		Eng. only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	**items**	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 6													
1. Number Sense: Ratios, Proportions, Percentages, and Negative Fractions	15	0.77	1.61	0.73	1.72	0.79	1.60	0.78	1.55	0.68	1.73	0.73	1.57
2. Number Sense: Operations and Problem Solving with Fractions	10	0.69	1.34	0.62	1.44	0.71	1.32	0.70	1.29	0.57	1.45	0.62	1.31
3. Algebra and Functions	19	0.81	1.78	0.78	1.95	0.83	1.77	0.81	1.70	0.76	1.94	0.75	1.71
4. Measurement and Geometry	10	0.65	1.44	0.52	1.45	0.66	1.43	0.68	1.40	0.51	1.48	0.62	1.42
5. Statistics, Data Analysis, and Probability	11	0.76	1.40	0.63	1.46	0.77	1.37	0.77	1.35	0.55	1.49	0.70	1.40
Grade 7													
1. Number Sense: Rational Numbers	14	0.73	1.60	0.61	1.68	0.74	1.59	0.75	1.54	0.59	1.68	0.68	1.58
2. Number Sense: Exponent, Powers and Roots	8	0.66	1.26	0.40	1.25	0.66	1.25	0.71	1.22	0.47	1.26	0.66	1.26
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions	10	0.63	1.41	0.51	1.42	0.64	1.40	0.66	1.37	0.49	1.45	0.59	1.40
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	15	0.79	1.59	0.71	1.73	0.80	1.57	0.79	1.52	0.71	1.73	0.74	1.54
5. Measurement and Geometry	13	0.71	1.63	0.55	1.62	0.72	1.62	0.72	1.60	0.53	1.65	0.65	1.64
6. Statistics, Data Analysis, and Probability	5	0.69	0.90	0.50	0.98	0.70	0.89	0.71	0.86	0.53	0.99	0.67	0.89
General Mathematics													
1. Number Sense: Rational Numbers	14	0.67	1.65	0.57	1.69	0.69	1.66	0.68	1.64	0.60	1.68	0.65	1.63
2. Number Sense: Exponent, Powers and Roots	10	0.64	1.41	0.43	1.41	0.65	1.41	0.65	1.41	0.50	1.42	0.64	1.41
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions	11	0.64	1.47	0.57	1.49	0.66	1.47	0.64	1.46	0.59	1.51	0.59	1.46
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	10	0.59	1.31	0.49	1.37	0.61	1.32	0.60	1.31	0.54	1.35	0.56	1.28
5. Measurement and Geometry	11	0.50	1.55	0.31	1.50	0.52	1.55	0.49	1.55	0.34	1.52	0.47	1.56
6. Statistics, Data Analysis, and Probability	9	0.62	1.33	0.44	1.37	0.64	1.33	0.63	1.32	0.48	1.37	0.61	1.30
Algebra I													
1. Number Properties, Operations, and Linear Equations	17	0.74	1.85	0.59	1.89	0.75	1.84	0.75	1.83	0.61	1.90	0.72	1.85
2. Graphing and Systems of Linear Equations	14	0.66	1.72	0.43	1.70	0.67	1.72	0.70	1.71	0.49	1.71	0.66	1.72
3. Quadratics and Polynomials	21	0.68	2.04	0.46	2.03	0.68	2.04	0.72	2.03	0.53	2.04	0.68	2.04
4. Functions and Rational Expressions	13	0.52	1.59	0.26	1.55	0.52	1.59	0.60	1.58	0.34	1.56	0.54	1.59
Geometry													
1. Logic and Geometric Proofs	23	0.80	2.12	0.73	2.16	0.81	2.10	0.82	2.08	0.70	2.17	0.77	2.14
2. Volume and Area Formulas	11	0.72	1.46	0.58	1.49	0.72	1.45	0.75	1.43	0.54	1.50	0.68	1.48

Subscore Reliabilities and SEM for Mathematics by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser		Spec. Ser.		Eng. only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	**items**	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
3. Angle Relationships, Constructions, and Lines	15	0.76	1.73	0.66	1.76	0.75	1.72	0.78	1.70	0.67	1.77	0.74	1.76
4. Trigonometry	15	0.77	1.70	0.66	1.74	0.77	1.69	0.80	1.66	0.69	1.75	0.75	1.72
Algebra II													
1. Polynomials and Rational Expressions	19	0.79	1.86	0.78	1.92	0.78	1.87	0.81	1.82	0.81	1.89	0.79	1.87
2. Quadratics, Conics, and Complex Numbers	16	0.68	1.83	0.66	1.83	0.67	1.83	0.72	1.80	0.66	1.82	0.68	1.83
3. Exponents and Logarithms	15	0.75	1.73	0.75	1.74	0.74	1.73	0.77	1.69	0.74	1.74	0.74	1.75
4. Series, Combinatorics, and Probability and Statistics	14	0.65	1.65	0.61	1.63	0.65	1.65	0.69	1.63	0.56	1.60	0.61	1.63
Summative High School Math													
1. Algebra I	18	0.77	1.65	0.86	1.73	0.76	1.65	0.79	1.56	0.82	1.73	0.78	1.68
2. Geometry	19	0.77	1.69	0.86	1.73	0.76	1.69	0.77	1.62	0.82	1.77	0.78	1.73
3. Algebra II	23	0.83	2.07	0.87	2.08	0.82	2.09	0.85	1.99	0.86	2.07	0.84	2.08
4. Probability and Statistics	5	0.53	0.90	0.66	0.92	0.52	0.89	0.53	0.88	0.57	0.97	0.55	0.93
Integrated Math 1													
1. Algebra I: Number Properties, Operations and Linear Equations	15	0.73	1.74	0.52	1.76	0.74	1.73	0.74	1.74	0.50	1.78	0.70	1.75
2. Algebra I: Graphing	9	0.54	1.39	0.25	1.36	0.55	1.39	0.57	1.38	0.28	1.38	0.54	1.39
3. Algebra I: Quadratics and Polynomials	14	0.54	1.70	0.24	1.68	0.52	1.70	0.61	1.68	0.31	1.68	0.56	1.72
4. Algebra I: Functions and Relations Expressions	7	0.36	1.13	0.12	1.12	0.34	1.13	0.45	1.14	0.19	1.12	0.34	1.14
5. Geometry	19	0.59	1.99	0.31	1.93	0.60	1.99	0.62	1.98	0.23	1.94	0.54	2.00
Integrated Math 2													
1. Algebra I	20	0.68	1.96	0.53	1.95	0.68	1.96	0.72	1.95	0.64	1.96	0.67	1.96
2. Geometry: Logic and Geometric Proofs	22	0.77	2.12	0.57	2.12	0.78	2.12	0.81	2.09	0.65	2.13	0.74	2.14
3. Geometry: Angle Relationships, Construction and Lines	8	0.42	1.33	0.29	1.31	0.41	1.32	0.52	1.30	0.34	1.33	0.40	1.33
4. Trigonometry	10	0.61	1.42	0.25	1.44	0.61	1.42	0.66	1.40	0.52	1.43	0.60	1.41
5. Algebra II/Probability and Statistics	4	0.34	0.88	0.08	0.90	0.32	0.88	0.36	0.88	0.16	0.85	0.37	0.87
Integrated Math 3													
1. Geometry	5	0.46	0.87	0.65	0.91	0.47	0.86	0.45	0.82	0.52	0.93	0.39	0.89
2. Algebra II: Polynomials and Relations Expressions	19	0.75	1.89	0.65	1.88	0.74	1.90	0.80	1.85	0.80	1.91	0.75	1.87
3. Algebra II: Quadratics, Conics and Statistics	16	0.63	1.84	0.55	1.79	0.60	1.85	0.70	1.80	0.67	1.83	0.65	1.82

Subscore Reliabilities and SEM for Mathematics by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser		Spec. Ser.		Eng. only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	**items**	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
4. Algebra II: Exponents and Logarithms	15	0.73	1.74	0.67	1.69	0.72	1.75	0.76	1.70	0.75	1.73	0.75	1.74
5. Algebra II: Series, Combinatorics, Probability and Stat.	10	0.58	1.44	0.15	1.39	0.56	1.45	0.62	1.43	0.57	1.35	0.63	1.41

Table 8.A.14: Subscore Reliabilities and SEM for Science by SPECIAL SERVICES/LANGUAGE FLUENCY

Subscore Reliabilities and SEM for Science by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser.		Spec. Ser.		Eng. only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	**items**	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 5 Science													
1. Physical Science (Grade 5)	11	0.61	1.49	0.58	1.51	0.59	1.49	0.58	1.49	0.43	1.53	0.48	1.51
2. Physical Science (Grade 4)	8	0.51	1.32	0.45	1.32	0.49	1.32	0.47	1.33	0.31	1.34	0.38	1.35
3. Life Science (Grade 5)	13	0.62	1.67	0.56	1.68	0.61	1.67	0.60	1.66	0.40	1.70	0.52	1.69
4. Life Science (Grade 4)	9	0.55	1.37	0.52	1.39	0.55	1.36	0.50	1.36	0.32	1.43	0.36	1.38
5. Earth Science (Grade 5)	11	0.61	1.51	0.54	1.52	0.61	1.51	0.59	1.50	0.39	1.53	0.49	1.51
6. Earth Science (Grade 4)	8	0.61	1.26	0.52	1.26	0.62	1.26	0.60	1.26	0.32	1.27	0.51	1.27
Biology													
1. Investigation and Experimentation	6	0.46	1.12	0.27	1.12	0.48	1.11	0.49	1.11	0.18	1.14	0.39	1.14
2. Cell Biology	9	0.53	1.39	0.30	1.37	0.53	1.39	0.58	1.38	0.26	1.39	0.48	1.41
3. Genetics	18	0.71	1.95	0.55	1.96	0.72	1.94	0.74	1.92	0.49	1.98	0.66	1.96
4. Ecology and Evolution	16	0.74	1.82	0.62	1.81	0.75	1.81	0.74	1.80	0.54	1.84	0.68	1.85
5. Physiology	11	0.68	1.46	0.61	1.51	0.69	1.44	0.66	1.45	0.51	1.53	0.61	1.50
Chemistry													
1. Investigation and Experimentation	6	0.55	1.09	0.54	1.10	0.54	1.07	0.53	1.08	0.37	1.13	0.49	1.13
2. Atomic and Molecular Structure	8	0.49	1.29	0.53	1.30	0.49	1.29	0.51	1.27	0.39	1.32	0.44	1.31
3. Chemical Bonds, Biochemistry	9	0.57	1.38	0.54	1.37	0.57	1.38	0.60	1.36	0.45	1.39	0.53	1.39
4. Kinetics, Thermodynamics	14	0.66	1.70	0.64	1.69	0.67	1.69	0.67	1.69	0.51	1.72	0.61	1.73
5. Chemical Reactions	13	0.66	1.64	0.60	1.59	0.66	1.64	0.70	1.63	0.47	1.61	0.63	1.64
6. Conservation of Matter and Stoichiometry	10	0.67	1.40	0.60	1.42	0.66	1.39	0.69	1.37	0.58	1.43	0.65	1.41
Earth Science													
1. Investigation and Experimentation	6	0.54	1.10	0.36	1.12	0.57	1.09	0.52	1.10	0.31	1.14	0.48	1.11
2. Astronomy and Cosmology	12	0.66	1.58	0.55	1.8	0.68	1.57	0.63	1.59	0.50	1.60	0.59	1.59
3. Solid Earth	14	0.67	1.69	0.58	1.70	0.70	1.68	0.65	1.69	0.51	1.73	0.61	1.70
4. The Earth's Energy	28	0.79	2.45	0.67	2.43	0.80	2.44	0.77	2.46	0.59	2.45	0.74	2.47
Physics													
1. Investigation and Experimentation	6	0.52	1.11	0.33	1.12	0.52	1.10	0.50	1.10	0.23	1.11	0.44	1.14
2. Motion and Forces	12	0.65	1.56	0.55	1.58	0.65	1.55	0.65	1.53	0.48	1.60	0.59	1.59
3. Conservation of Energy and Momentum	12	0.72	1.53	0.53	1.53	0.72	1.53	0.72	1.51	0.55	1.53	0.69	1.55
4. Heat and Thermodynamics	9	0.63	1.34	0.52	1.35	0.63	1.33	0.63	1.32	0.37	1.37	0.56	1.36
5. Waves	10	0.64	1.44	0.44	1.40	0.64	1.45	0.65	1.44	0.36	1.39	0.57	1.45
6. Electric and Magnetic Phenomena	11	0.68	1.49	0.51	1.48	0.68	1.49	0.68	1.49	0.42	1.48	0.63	1.51

Subscore Reliabilities and SEM for Science by SPECIAL SERVICES/LANGUAGE FLUENCY													
	# of	No Spec. Ser.		Spec. Ser.		Eng. only		Ini. Fluent		Learner		Red. Fluent	
Subscore Area	**items**	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Integrated Science 1													
1. Investigation and Experimentation	6	0.38	1.12	0.22	1.10	0.41	1.12	0.39	1.12	0.19	1.11	0.33	1.12
2. Biology/Life Sciences	10	0.57	1.47	0.48	1.43	0.58	1.47	0.55	1.48	0.40	1.45	0.52	1.48
3. Chemistry	15	0.41	1.79	0.29	1.74	0.44	1.80	0.42	1.80	0.29	1.76	0.35	1.79
4. Earth Sciences	17	0.67	1.89	0.57	1.87	0.70	1.88	0.67	1.88	0.50	1.89	0.62	1.89
5. Physics	12	0.39	1.54	0.22	1.49	0.43	1.55	0.40	1.54	0.14	1.49	0.31	1.53
Integrated Science 2													
1. Investigation and Experimentation	6	0.24	1.15	0.13	1.14	0.27	1.16	0.21	1.15	0.09	1.14	0.16	1.16
2. Biology/Life Sciences	15	0.46	1.81	0.31	1.76	0.50	1.81	0.45	1.82	0.28	1.78	0.41	1.83
3. Chemistry	6	0.31	1.13	0.08	1.09	0.32	1.13	0.32	1.12	0.19	1.10	0.28	1.13
4. Earth Sciences	15	0.61	1.81	0.50	1.79	0.65	1.80	0.60	1.81	0.40	1.81	0.53	1.83
5. Physics	18	0.44	1.92	0.18	1.88	0.47	1.92	0.41	1.93	0.24	1.89	0.39	1.93
Integrated Science 3													
1. Investigation and Experimentation	6	0.38	1.13	0.31	1.07	0.45	1.11	0.39	1.12	0.18	1.12	0.28	1.15
2. Biology/Life Sciences	16	0.60	1.88	0.35	1.85	0.63	1.87	0.57	1.88	0.35	1.86	0.54	1.90
3. Chemistry	23	0.55	2.17	0.12	2.08	0.60	2.15	0.56	2.15	0.29	2.14	0.49	2.19
4. Earth Sciences	7	0.39	1.23	0.33	1.19	0.42	1.22	0.36	1.24	0.32	1.21	0.37	1.23
5. Physics	8	0.19	1.29	-0.01	1.24	0.20	1.30	0.20	1.29	0.09	1.26	0.19	1.29
Integrated Science 4													
1. Investigation and Experimentation	6	0.63	1.06	0.53	1.08	0.63	1.04	0.42	1.14	0.33	1.10	0.51	1.11
2. Biology/Life Sciences	13	0.71	1.60	0.74	1.58	0.74	1.56	0.73	1.55	0.52	1.66	0.45	1.66
3. Chemistry	10	0.52	1.45	0.41	1.41	0.54	1.44	0.54	1.43	0.21	1.44	0.53	1.41
4. Earth Sciences	15	0.75	1.73	0.69	1.72	0.76	1.71	0.73	1.71	0.44	1.78	0.55	1.81
5. Physics	16	0.63	1.85	0.52	1.79	0.65	1.85	0.67	1.83	0.45	1.84	0.48	1.83

Table 8.A.15: Reliabilities and SEM for the CSTs by PRIMARY ETHNICITY

Reliabilities and SEM for the CSTs by PRIMARY ETHNICITY (table 1 of 2)									
Subject Area	**CST**	**Am. Ind.**		**Asian**		**Pac. Island**		**Filipino**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
English-Language Arts	**2**	0.94	3.35	0.94	3.06	0.93	3.41	0.92	3.26
	3	0.92	3.59	0.93	3.25	0.91	3.55	0.91	3.29
	4*	0.93	3.82	0.94	3.54	0.93	3.67	0.93	3.43
	5	0.93	3.77	0.94	3.41	0.93	3.62	0.92	3.53
	6	0.93	3.71	0.94	3.42	0.92	3.88	0.91	3.74
	7*	0.93	3.70	0.93	3.62	0.92	3.78	0.91	3.61
	8	0.92	3.87	0.93	3.65	0.91	3.89	0.90	3.78
	9	0.93	3.88	0.94	3.60	0.93	3.71	0.92	3.64
	10	0.94	3.81	0.94	3.63	0.93	3.88	0.93	3.50
	11	0.94	3.73	0.94	3.61	0.93	3.89	0.92	3.73
	* MC items								
History-Social Science	**8**	0.90	3.95	0.93	3.74	0.89	4.01	0.90	3.81
	10	0.90	3.48	0.92	3.27	0.88	3.58	0.88	3.52
	11	0.90	3.53	0.92	3.47	0.89	3.53	0.90	3.41
Math	**2**	0.93	3.08	0.93	2.66	0.92	3.21	0.92	2.81
	3	0.93	3.21	0.93	2.67	0.92	3.26	0.92	2.82
	4	0.94	3.25	0.94	2.56	0.93	3.24	0.93	2.80
	5	0.93	3.53	0.95	2.81	0.93	3.52	0.93	3.28
	6	0.92	3.65	0.94	3.06	0.93	3.46	0.92	3.40
	7	0.91	3.66	0.94	3.11	0.92	3.50	0.92	3.39
	General Mathematics	0.89	3.71	0.91	3.53	0.88	3.70	0.89	3.63
	Algebra I	0.84	3.69	0.92	3.52	0.85	3.67	0.87	3.69
	Geometry	0.91	3.58	0.94	3.30	0.91	3.61	0.91	3.60
	Algebra II	0.88	3.62	0.92	3.45	0.88	3.60	0.88	3.61
	High School Mathematics	0.91	3.41	0.92	3.05	0.91	3.48	0.90	3.44
	Integrated Mathematics 1	0.85	3.61	0.90	3.58	0.76	3.62	0.83	3.64
	Integrated Mathematics 2	0.89	3.47	0.90	3.61	0.84	3.58	0.87	3.59
	Integrated Mathematics 3	-	-	0.91	3.60	-	-	0.88	3.58
Science	**Grade 5 Science**	0.87	3.59	0.90	3.44	0.86	3.57	0.86	3.54
	Biology	0.89	3.51	0.91	3.48	0.87	3.65	0.87	3.57
	Chemistry	0.87	3.62	0.90	3.46	0.87	3.53	0.86	3.55
	Earth Science	0.90	3.51	0.90	3.55	0.88	3.55	0.88	3.58
	Physics	0.90	3.56	0.91	3.33	0.88	3.63	0.88	3.50
	Integrated Science 1	0.82	3.53	0.86	3.52	0.78	3.59	0.81	3.54
	Integrated Science 2	0.76	3.59	0.85	3.62	0.69	3.59	0.73	3.59
	Integrated Science 3	0.85	3.51	0.81	3.57	0.69	3.49	0.80	3.58
	Integrated Science 4	-	-	0.88	3.51	-	-	0.86	3.40

Table 8.A.15: Reliabilities and SEM for the CSTs by PRIMARY ETHNICITY [continued]

Reliabilities and SEM for the CSTs by PRIMARY ETHNICITY (table 2 of 2)							
Subject Area	**CST**	**Hispanic**		**African Am.**		**White**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
English-Language Arts	**2**	0.93	3.51	0.93	3.63	0.94	3.11
	3	0.91	3.62	0.92	3.54	0.93	3.17
	4*	0.93	3.71	0.93	3.82	0.94	3.39
	5	0.92	3.82	0.93	3.70	0.94	3.35
	6	0.92	3.83	0.92	3.98	0.93	3.57
	7*	0.92	3.83	0.92	3.92	0.93	3.56
	8	0.90	4.02	0.91	3.92	0.92	3.76
	9	0.92	3.86	0.92	3.95	0.94	3.49
	10	0.93	3.78	0.93	3.94	0.94	3.67
	11	0.92	3.99	0.93	3.85	0.94	3.72
	* MC item						
History-Social Science	**8**	0.88	3.87	0.88	3.93	0.92	3.81
	10	0.87	3.58	0.87	3.53	0.91	3.46
	11	0.88	3.57	0.88	3.57	0.92	3.39
Math	**2**	0.93	3.19	0.93	3.36	0.92	2.88
	3	0.92	3.39	0.93	3.33	0.93	2.89
	4	0.94	3.20	0.94	3.38	0.94	2.92
	5	0.93	3.43	0.93	3.50	0.94	3.27
	6	0.92	3.50	0.92	3.54	0.93	3.35
	7	0.90	3.69	0.90	3.64	0.93	3.37
	General Mathematics	0.88	3.57	0.87	3.68	0.90	3.60
	Algebra I	0.81	3.69	0.79	3.67	0.88	3.66
	Geometry	0.88	3.73	0.87	3.71	0.92	3.48
	Algebra II	0.87	3.56	0.86	3.63	0.90	3.54
	High School Mathematics	0.90	3.52	0.91	3.47	0.91	3.31
	Integrated Mathematics 1	0.78	3.64	0.73	3.64	0.85	3.68
	Integrated Mathematics 2	0.82	3.66	0.83	3.64	0.88	3.59
	Integrated Mathematics 3	0.84	3.70	0.86	3.64	0.88	3.61
Science	**Grade 5 Science**	0.83	3.64	0.85	3.56	0.88	3.53
	Biology	0.85	3.66	0.85	3.66	0.90	3.49
	Chemistry	0.85	3.56	0.84	3.58	0.89	3.49
	Earth Science	0.86	3.58	0.85	3.64	0.91	3.44
	Physics	0.86	3.62	0.85	3.50	0.91	3.38
	Integrated Science 1	0.77	3.52	0.76	3.53	0.85	3.52
	Integrated Science 2	0.68	3.56	0.68	3.59	0.80	3.60
	Integrated Science 3	0.71	3.55	0.73	3.52	0.84	3.61
	Integrated Science 4	0.82	3.53	0.94	3.24	0.89	3.52

Table 8.A.16: Subscore Reliabilities and SEM for English-Language Arts by PRIMARY ETHNICITY

Subscore Reliabilities and SEM for ELA by PRIMARY ETHNICITY															
	# of	Am. Ind.		Asian		Pac. Island		Filipino		Hispanic		African Am.		White	
Subscore Area	items	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 2															
1. Word Analysis and Vocabulary	22	0.81	2.00	0.80	1.81	0.79	1.97	0.77	1.84	0.79	2.05	0.81	2.01	0.79	1.87
2. Reading Comprehension	15	0.83	1.60	0.83	1.46	0.82	1.60	0.80	1.52	0.82	1.67	0.82	1.65	0.83	1.45
3. Literary Response and Analysis	6	0.59	1.06	0.58	0.97	0.54	1.05	0.52	1.02	0.51	1.08	0.56	1.08	0.62	0.97
4. Written and Oral Language Conventions	14	0.79	1.61	0.83	1.32	0.79	1.55	0.79	1.40	0.77	1.65	0.79	1.61	0.80	1.48
5. Writing Strategies	8	0.63	1.22	0.65	1.12	0.60	1.21	0.58	1.15	0.60	1.25	0.64	1.23	0.66	1.12
Grade 3															
1. Word Analysis and Vocabulary	20	0.83	1.83	0.84	1.60	0.80	1.80	0.78	1.66	0.81	1.91	0.83	1.86	0.82	1.63
2. Reading Comprehension	15	0.74	1.74	0.78	1.63	0.72	1.74	0.72	1.69	0.68	1.77	0.71	1.76	0.77	1.63
3. Literary Response and Analysis	8	0.62	1.20	0.66	1.12	0.60	1.19	0.60	1.15	0.58	1.22	0.61	1.21	0.64	1.11
4. Written and Oral Language Conventions	13	0.69	1.56	0.71	1.36	0.67	1.53	0.65	1.42	0.67	1.58	0.70	1.57	0.71	1.43
5. Writing Strategies	9	0.61	1.35	0.67	1.24	0.59	1.35	0.61	1.30	0.55	1.37	0.58	1.36	0.64	1.28
Grade 4															
1. Word Analysis and Vocabulary	18	0.81	1.75	0.83	1.56	0.79	1.75	0.77	1.62	0.79	1.82	0.81	1.80	0.81	1.57
2. Reading Comprehension	15	0.79	1.63	0.83	1.45	0.78	1.62	0.78	1.52	0.77	1.67	0.78	1.67	0.80	1.47
3. Literary Response and Analysis	9	0.55	1.31	0.60	1.20	0.55	1.30	0.52	1.26	0.55	1.33	0.57	1.33	0.57	1.22
4. Written and Oral Language Conventions	18	0.75	1.86	0.79	1.66	0.74	1.83	0.73	1.73	0.74	1.88	0.76	1.87	0.76	1.74
5. Writing Strategies	15	0.70	1.77	0.77	1.67	0.70	1.77	0.71	1.73	0.65	1.78	0.67	1.78	0.74	1.71
Grade 5															
1. Word Analysis and Vocabulary	14	0.75	1.59	0.78	1.43	0.72	1.59	0.71	1.49	0.70	1.65	0.73	1.63	0.76	1.44
2. Reading Comprehension	16	0.73	1.75	0.78	1.65	0.72	1.75	0.72	1.71	0.68	1.75	0.70	1.75	0.76	1.69
3. Literary Response and Analysis	12	0.76	1.42	0.77	1.25	0.74	1.41	0.71	1.31	0.74	1.46	0.75	1.47	0.75	1.27
4. Written and Oral Language Conventions	17	0.77	1.70	0.76	1.43	0.75	1.63	0.70	1.49	0.75	1.72	0.77	1.72	0.76	1.54
5. Writing Strategies	16	0.74	1.81	0.79	1.67	0.75	1.80	0.76	1.74	0.72	1.83	0.73	1.82	0.77	1.72
Grade 6															
1. Word Analysis and Vocabulary	13	0.70	1.59	0.75	1.43	0.69	1.58	0.67	1.49	0.68	1.62	0.71	1.61	0.71	1.46
2. Reading Comprehension	17	0.72	1.90	0.74	1.80	0.70	1.90	0.68	1.85	0.70	1.91	0.70	1.91	0.72	1.83
3. Literary Response and Analysis	12	0.64	1.56	0.67	1.49	0.63	1.57	0.60	1.54	0.60	1.58	0.63	1.57	0.65	1.51
4. Written and Oral Language Conventions	16	0.79	1.61	0.79	1.34	0.79	1.56	0.75	1.38	0.80	1.65	0.81	1.66	0.79	1.39
5. Writing Strategies	17	0.76	1.84	0.82	1.71	0.76	1.83	0.77	1.78	0.73	1.86	0.74	1.85	0.79	1.73

Subscore Reliabilities and SEM for ELA by PRIMARY ETHNICITY															
	# of	Am. Ind.		Asian		Pac. Island		Filipino		Hispanic		African Am.		White	
Subscore Area	**items**	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 7															
1. Word Analysis and Vocabulary	11	0.69	1.38	0.72	1.25	0.66	1.40	0.63	1.30	0.67	1.46	0.68	1.43	0.70	1.25
2. Reading Comprehension	18	0.79	1.82	0.79	1.62	0.77	1.82	0.73	1.70	0.78	1.87	0.79	1.87	0.78	1.68
3. Literary Response and Analysis	13	0.63	1.66	0.66	1.63	0.60	1.67	0.58	1.66	0.59	1.65	0.61	1.66	0.65	1.63
4. Written and Oral Language Conventions	16	0.76	1.77	0.78	1.57	0.75	1.74	0.73	1.63	0.72	1.80	0.74	1.78	0.77	1.66
5. Writing Strategies	17	0.74	1.83	0.77	1.72	0.72	1.84	0.71	1.78	0.71	1.86	0.73	1.85	0.76	1.76
Grade 8															
1. Word Analysis and Vocabulary	9	0.53	1.33	0.58	1.27	0.47	1.35	0.46	1.31	0.46	1.35	0.47	1.37	0.54	1.28
2. Reading Comprehension	18	0.71	1.96	0.76	1.88	0.68	1.97	0.68	1.94	0.64	1.98	0.64	1.97	0.73	1.90
3. Literary Response and Analysis	15	0.70	1.74	0.73	1.65	0.67	1.76	0.66	1.72	0.65	1.77	0.66	1.77	0.70	1.66
4. Written and Oral Language Conventions	16	0.74	1.73	0.77	1.56	0.74	1.71	0.69	1.61	0.73	1.76	0.74	1.75	0.75	1.61
5. Writing Strategies	17	0.80	1.77	0.80	1.64	0.77	1.78	0.74	1.72	0.76	1.82	0.79	1.81	0.80	1.64
Grade 9															
1. Word Analysis and Vocabulary	8	0.67	1.19	0.69	1.08	0.63	1.21	0.61	1.12	0.62	1.26	0.64	1.23	0.67	1.09
2. Reading Comprehension	18	0.77	1.83	0.81	1.68	0.75	1.85	0.75	1.74	0.74	1.87	0.75	1.87	0.79	1.72
3. Literary Response and Analysis	16	0.76	1.76	0.81	1.64	0.74	1.78	0.74	1.72	0.71	1.80	0.71	1.80	0.78	1.67
4. Written and Oral Language Conventions	13	0.69	1.61	0.69	1.46	0.66	1.60	0.61	1.50	0.65	1.64	0.67	1.64	0.69	1.52
5. Writing Strategies	20	0.81	1.96	0.80	1.83	0.79	1.98	0.77	1.88	0.78	2.00	0.79	1.99	0.80	1.88
Grade 10															
1. Word Analysis and Vocabulary	8	0.66	1.14	0.69	1.02	0.61	1.16	0.60	1.05	0.61	1.22	0.64	1.19	0.66	1.01
2. Reading Comprehension	18	0.80	1.86	0.80	1.71	0.77	1.89	0.76	1.78	0.75	1.91	0.77	1.91	0.82	1.73
3. Literary Response and Analysis	16	0.77	1.78	0.79	1.69	0.74	1.80	0.74	1.75	0.72	1.80	0.74	1.80	0.79	1.71
4. Written and Oral Language Conventions	13	0.74	1.57	0.75	1.40	0.74	1.56	0.70	1.45	0.71	1.60	0.74	1.59	0.75	1.47
5. Writing Strategies	20	0.83	1.94	0.83	1.81	0.81	1.97	0.78	1.87	0.80	2.00	0.81	1.98	0.83	1.82
Grade 11															
1. Word Analysis and Vocabulary	8	0.60	1.26	0.66	1.16	0.57	1.28	0.58	1.20	0.53	1.30	0.56	1.29	0.63	1.18
2. Reading Comprehension	19	0.75	1.96	0.75	1.87	0.72	1.98	0.68	1.92	0.72	1.99	0.74	1.99	0.76	1.89
3. Literary Response and Analysis	17	0.77	1.82	0.78	1.75	0.74	1.85	0.72	1.81	0.70	1.87	0.73	1.86	0.79	1.76
4. Written and Oral Language Conventions	9	0.69	1.31	0.72	1.19	0.68	1.31	0.65	1.26	0.64	1.34	0.65	1.33	0.72	1.23
5. Writing Strategies	22	0.86	2.01	0.85	1.86	0.85	2.03	0.82	1.95	0.83	2.06	0.84	2.05	0.87	1.90

Table 8.A.17: Subscore Reliabilities and SEM for History-Social Science by PRIMARY ETHNICITY

Subscore Area	# of items	Am. Ind.		Asian		Pac. Island		Filipino		Hispanic		African Am.		White	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 8															
1. World History and Geography: Ancient Civilizations	16	0.61	1.81	0.72	1.76	0.61	1.81	0.61	1.81	0.56	1.80	0.58	1.80	0.67	1.79
2. Late Antiquity and the Middle Ages	14	0.66	1.70	0.71	1.64	0.64	1.72	0.62	1.70	0.58	1.73	0.58	1.72	0.68	1.68
3. Renaissance/Reformation	10	0.47	1.43	0.59	1.40	0.42	1.43	0.48	1.42	0.39	1.43	0.38	1.43	0.56	1.42
4. U.S. Constitution and the Early Republic	22	0.78	2.10	0.84	1.97	0.77	2.09	0.78	2.05	0.73	2.12	0.74	2.11	0.82	2.03
5. Civil War and Its Aftermath	13	0.65	1.65	0.71	1.57	0.63	1.66	0.63	1.63	0.60	1.66	0.62	1.66	0.69	1.61
Grade 10 (World History)															
1. Development of Modern Political Thought	13	0.69	1.65	0.72	1.58	0.63	1.67	0.64	1.65	0.61	1.68	0.62	1.67	0.72	1.60
2. Industrial Expansion and Imperialism	10	0.66	1.42	0.69	1.33	0.60	1.46	0.61	1.40	0.59	1.47	0.60	1.46	0.68	1.36
3. Causes and Effects of World War I	14	0.67	1.70	0.73	1.62	0.63	1.71	0.66	1.68	0.61	1.72	0.59	1.72	0.71	1.65
4. Causes and Effects of World War II	13	0.65	1.62	0.69	1.58	0.62	1.63	0.60	1.62	0.60	1.63	0.59	1.63	0.69	1.60
5. International Developments in the Post-World War II Era	10	0.58	1.41	0.64	1.37	0.57	1.42	0.57	1.39	0.53	1.42	0.52	1.42	0.64	1.39
Grade 11 (U.S. History)															
1. Foundations of American Political and Social Thought	10	0.59	1.45	0.69	1.39	0.55	1.46	0.59	1.45	0.54	1.46	0.54	1.46	0.64	1.42
2. Industrialization and the U.S. role as a World Power	13	0.61	1.63	0.71	1.56	0.59	1.63	0.60	1.62	0.54	1.64	0.56	1.65	0.68	1.60
3. United States between the World Wars	12	0.63	1.58	0.66	1.52	0.60	1.58	0.58	1.56	0.59	1.59	0.60	1.58	0.67	1.54
4. World War II and Foreign Affairs	12	0.74	1.51	0.79	1.43	0.72	1.53	0.74	1.50	0.71	1.53	0.70	1.53	0.78	1.46
5. Post-World War II Domestic Affairs	13	0.69	1.61	0.73	1.57	0.66	1.63	0.68	1.61	0.65	1.64	0.64	1.63	0.73	1.58

Table 8.A.18: Subscore Reliabilities and SEM for Mathematics by PRIMARY ETHNICITY

Subscore Reliabilities and SEM for Mathematics by PRIMARY ETHNICITY															
Subscore Area	# of items	Am. Ind.		Asian		Pac. Island		Filipino		Hispanic		African Am.		White	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 2															
1. Number Sense: Place Value, Addition, and Subtraction	15	0.78	1.53	0.79	1.25	0.77	1.51	0.76	1.37	0.78	1.58	0.80	1.58	0.77	1.38
2. Number Sense: Multiplication, Division, and Fractions	23	0.82	1.85	0.82	1.57	0.80	1.85	0.79	1.70	0.82	1.94	0.83	1.94	0.80	1.64
3. Algebra and Functions	6	0.66	0.98	0.68	0.80	0.66	0.97	0.64	0.88	0.65	1.02	0.67	1.02	0.66	0.89
4. Measurement and Geometry	14	0.69	1.41	0.70	1.22	0.69	1.41	0.67	1.29	0.70	1.48	0.72	1.50	0.67	1.26
5. Statistics, Data Analysis, and Probability	7	0.60	1.00	0.63	0.86	0.61	0.98	0.58	0.92	0.60	1.02	0.63	1.05	0.61	0.92
Grade 3															
1. Number Sense: Place Value, Fractions, and Decimals	16	0.78	1.57	0.76	1.26	0.77	1.51	0.74	1.35	0.78	1.60	0.79	1.62	0.77	1.41
2. Number Sense: Addition, Subtraction, Multiplication, and Division	16	0.80	1.70	0.82	1.34	0.79	1.64	0.79	1.48	0.79	1.70	0.80	1.72	0.81	1.54
3. Algebra and Functions	12	0.74	1.40	0.77	1.14	0.74	1.38	0.73	1.25	0.73	1.45	0.74	1.47	0.76	1.23
4. Measurement and Geometry	16	0.73	1.56	0.73	1.34	0.71	1.53	0.68	1.42	0.71	1.58	0.73	1.60	0.72	1.44
5. Statistics, Data Analysis, and Probability	5	0.53	0.80	0.49	0.66	0.52	0.79	0.46	0.70	0.49	0.83	0.53	0.85	0.52	0.68
Grade 4															
1. Number Sense: Decimals, Fractions, and Negative Numbers	16	0.79	1.53	0.76	1.27	0.76	1.49	0.73	1.34	0.77	1.58	0.79	1.62	0.78	1.35
2. Number Sense: Operations and Factoring	15	0.82	1.57	0.84	1.20	0.82	1.51	0.82	1.36	0.81	1.58	0.81	1.61	0.83	1.41
3. Algebra and Functions	18	0.86	1.65	0.84	1.25	0.85	1.57	0.83	1.37	0.86	1.68	0.86	1.72	0.86	1.45
4. Measurement and Geometry	12	0.70	1.51	0.73	1.31	0.70	1.49	0.69	1.40	0.69	1.53	0.70	1.55	0.72	1.41
5. Statistics, Data Analysis, and Probability	4	0.50	0.74	0.46	0.63	0.45	0.73	0.41	0.66	0.48	0.77	0.52	0.79	0.49	0.66
Grade 5															
1. Number Sense: Estimation, Percents, and Factoring	12	0.73	1.49	0.78	1.27	0.73	1.45	0.74	1.38	0.70	1.49	0.70	1.50	0.77	1.39
2. Number Sense: Operations with Fractions and Decimals	17	0.83	1.74	0.86	1.42	0.84	1.71	0.84	1.58	0.82	1.75	0.82	1.77	0.85	1.61
3. Algebra and Functions	17	0.79	1.75	0.83	1.45	0.80	1.70	0.80	1.57	0.78	1.76	0.79	1.78	0.82	1.60
4. Measurement and Geometry	15	0.75	1.71	0.80	1.48	0.76	1.68	0.76	1.59	0.74	1.72	0.73	1.73	0.79	1.60
5. Statistics, Data Analysis, and Probability	4	0.59	0.75	0.55	0.57	0.56	/0.73	0.52	0.63	0.57	0.76	0.60	0.78	0.59	0.65

Subscore Reliabilities and SEM for Mathematics by PRIMARY ETHNICITY															
Subscore Area	**# of items**	**Am. Ind.**		**Asian**		**Pac. Island**		**Filipino**		**Hispanic**		**African Am.**		**White**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 6															
1. Number Sense: Ratios, Proportions, Percentages, and Negative Fractions	15	0.75	1.68	0.81	1.41	0.77	1.65	0.77	1.55	0.73	1.69	0.73	1.71	0.77	1.55
2. Number Sense: Operations and Problem Solving with Fractions	10	0.68	1.39	0.70	1.17	0.69	1.36	0.65	1.29	0.65	1.42	0.66	1.42	0.69	1.27
3. Algebra and Functions	19	0.81	1.87	0.82	1.54	0.81	1.83	0.78	1.69	0.79	1.88	0.80	1.90	0.81	1.70
4. Measurement and Geometry	10	0.60	1.47	0.72	1.31	0.62	1.45	0.66	1.40	0.58	1.47	0.56	1.47	0.67	1.41
5. Statistics, Data Analysis, and Probability	11	0.73	1.44	0.79	1.28	0.75	1.43	0.74	1.38	0.69	1.46	0.68	1.46	0.77	1.33
Grade 7															
1. Number Sense: Rational Numbers	14	0.69	1.64	0.77	1.43	0.69	1.63	0.71	1.56	0.67	1.66	0.65	1.66	0.73	1.55
2. Number Sense: Exponent, Powers and Roots	8	0.58	1.27	0.74	1.14	0.62	1.27	0.67	1.25	0.56	1.28	0.55	1.26	0.66	1.25
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions	10	0.60	1.44	0.67	1.27	0.61	1.42	0.61	1.37	0.57	1.44	0.58	1.44	0.63	1.38
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	15	0.78	1.65	0.79	1.37	0.78	1.62	0.76	1.52	0.76	1.67	0.75	1.70	0.80	1.52
5. Measurement and Geometry	13	0.66	1.66	0.75	1.50	0.67	1.65	0.68	1.61	0.62	1.66	0.61	1.66	0.72	1.59
6. Statistics, Data Analysis, and Probability	5	0.65	0.94	0.73	0.78	0.67	0.93	0.69	0.85	0.63	0.96	0.62	0.96	0.71	0.86
General Mathematics															
1. Number Sense: Rational Numbers	14	0.67	1.67	0.73	1.59	0.66	1.66	0.68	1.63	0.63	1.68	0.63	1.68	0.69	1.64
2. Number Sense: Exponent, Powers and Roots	10	0.62	1.42	0.70	1.37	0.62	1.41	0.66	1.40	0.57	1.42	0.57	1.41	0.66	1.40
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions	11	0.66	1.48	0.65	1.43	0.63	1.49	0.62	1.44	0.63	1.50	0.65	1.50	0.65	1.45
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions	10	0.59	1.35	0.63	1.28	0.60	1.32	0.58	1.29	0.57	1.34	0.55	1.35	0.61	1.30
5. Measurement and Geometry	11	0.51	1.54	0.57	1.53	0.44	1.54	0.51	1.55	0.42	1.54	0.38	1.52	0.53	1.55
6. Statistics, Data Analysis, and Probability	9	0.62	1.34	0.65	1.29	0.60	1.35	0.62	1.30	0.58	1.35	0.58	1.35	0.65	1.31
Algebra I															
1. Number Properties, Operations, and Linear Equations	17	0.71	1.87	0.78	1.72	0.70	1.87	0.73	1.83	0.68	1.89	0.65	1.89	0.74	1.81
2. Graphing and Systems of Linear Equations	14	0.61	1.73	0.76	1.64	0.63	1.73	0.67	1.72	0.56	1.73	0.52	1.72	0.69	1.71

Subscore Reliabilities and SEM for Mathematics by PRIMARY ETHNICITY															
Subscore Area	**# of items**	**Am. Ind.**		**Asian**		**Pac. Island**		**Filipino**		**Hispanic**		**African Am.**		**White**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
3. Quadratics and Polynomials	21	0.62	2.05	0.78	1.97	0.64	2.05	0.68	2.03	0.57	2.05	0.54	2.04	0.70	2.04
4. Functions and Rational Expressions	13	0.41	1.58	0.73	1.58	0.46	1.58	0.54	1.59	0.34	1.57	0.31	1.56	0.56	1.60
Geometry															
1. Logic and Geometric Proofs	23	0.77	2.13	0.84	1.98	0.77	2.15	0.77	2.12	0.72	2.18	0.72	2.18	0.80	2.07
2. Volume and Area Formulas	11	0.70	1.48	0.77	1.35	0.67	1.49	0.70	1.46	0.60	1.50	0.55	1.50	0.72	1.44
3. Angle Relationships, Constructions, and Lines	15	0.72	1.76	0.80	1.59	0.72	1.77	0.73	1.73	0.68	1.79	0.64	1.79	0.74	1.70
4. Trigonometry	15	0.73	1.74	0.82	1.55	0.74	1.73	0.76	1.70	0.69	1.76	0.66	1.76	0.76	1.67
Algebra II															
1. Polynomials and Rational Expressions	19	0.75	1.90	0.81	1.73	0.75	1.90	0.75	1.89	0.73	1.91	0.73	1.91	0.78	1.86
2. Quadratics, Conics, and Complex Numbers	16	0.61	1.86	0.74	1.76	0.61	1.85	0.63	1.84	0.59	1.84	0.58	1.84	0.66	1.84
3. Exponents and Logarithms	15	0.72	1.76	0.78	1.62	0.71	1.76	0.70	1.75	0.68	1.78	0.68	1.77	0.74	1.72
4. Series, Combinatorics, and Probability and Statistics	14	0.57	1.66	0.72	1.63	0.58	1.64	0.58	1.65	0.51	1.63	0.49	1.61	0.64	1.66
Summative High School Math															
1. Algebra I	18	0.75	1.71	0.77	1.50	0.76	1.72	0.79	2.14	0.73	1.79	0.75	1.81	0.75	1.64
2. Geometry	19	0.76	1.75	0.75	1.56	0.73	1.78	0.49	0.94	0.73	1.83	0.76	1.86	0.74	1.67
3. Algebra II	23	0.81	2.14	0.83	1.94	0.82	2.12	0.73	1.83	0.78	2.17	0.78	2.17	0.81	2.09
4. Probability and Statistics	5	0.49	0.91	0.53	0.86	0.49	0.95	0.67	1.72	0.51	0.97	0.50	0.98	0.50	0.88
Integrated Math 1															
1. Algebra I: Number Properties, Operations and Linear Equations	15	0.76	1.71	0.79	1.70	0.62	1.79	0.70	1.75	0.67	1.77	0.64	1.76	0.74	1.71
2. Algebra I: Graphing	9	0.37	1.44	0.65	1.36	0.34	1.36	0.49	1.39	0.44	1.38	0.38	1.38	0.58	1.39
3. Algebra I: Quadratics and Polynomials	14	0.45	1.71	0.66	1.69	0.58	1.67	0.55	1.70	0.45	1.69	0.36	1.69	0.54	1.70
4. Algebra I: Functions and Relations Expressions	7	0.41	1.08	0.62	1.11	0.11	1.14	0.26	1.14	0.22	1.13	0.16	1.12	0.38	1.13
5. Geometry	19	0.60	1.97	0.70	1.99	0.29	1.95	0.53	2.00	0.44	1.96	0.38	1.96	0.64	1.99
Integrated Math 2															
1. Algebra I	20	0.57	1.94	0.73	1.93	0.61	1.92	0.68	1.93	0.58	1.97	0.59	1.96	0.67	1.96
2. Geometry: Logic and Geometric Proofs	22	0.79	2.06	0.80	2.09	0.70	2.12	0.74	2.14	0.67	2.14	0.70	2.12	0.78	2.11
3. Geometry: Angle Relationships, Construction and Lines	8	0.48	1.29	0.44	1.32	0.36	1.31	0.45	1.32	0.34	1.32	0.34	1.32	0.42	1.31

Subscore Reliabilities and SEM for Mathematics by PRIMARY ETHNICITY															
Subscore Area	**# of items**	**Am. Ind.**		**Asian**		**Pac. Island**		**Filipino**		**Hispanic**		**African Am.**		**White**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
4. Trigonometry	10	0.60	1.35	0.68	1.39	0.51	1.44	0.61	1.42	0.46	1.44	0.56	1.41	0.60	1.42
5. Algebra II/Probability and Statistics	4	0.42	0.84	0.44	0.86	0.29	0.88	0.22	0.89	0.21	0.88	0.13	0.89	0.35	0.88
Integrated Math 3															
1. Geometry	5	-	-	0.47	0.82	-	-	0.37	0.91	0.45	0.92	0.51	0.92	0.45	0.85
2. Algebra II: Polynomials and Relations Expressions	19	-	-	0.80	1.83	-	-	0.71	1.88	0.62	1.92	0.66	1.93	0.74	1.90
3. Algebra II: Quadratics, Conics and Statistics	16	-	-	0.71	1.79	-	-	0.56	1.85	0.53	1.85	0.54	1.85	0.59	1.85
4. Algebra II: Exponents and Logarithms	15	-	-	0.76	1.68	-	-	0.71	1.75	0.69	1.77	0.67	1.78	0.71	1.75
5. Algebra II: Series, Combinatorics, Probability and Statistics	10	-	-	0.64	1.42	-	-	0.59	1.41	0.48	1.41	0.44	1.43	0.54	1.45

Table 8.A.19: Subscore Reliabilities and SEM for Science by PRIMARY ETHNICITY

Subscore Reliabilities and SEM for Science by PRIMARY ETHNICITY															
Subscore Area	**# of items**	**Am. Ind.**		**Asian**		**Pac. Island**		**Filipino**		**Hispanic**		**African Am.**		**White**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Grade 5 Science															
1. Physical Science (Grade 5)	11	0.56	1.52	0.62	1.45	0.55	1.52	0.54	1.48	0.52	1.53	0.55	1.52	0.57	1.47
2. Physical Science (Grade 4)	8	0.44	1.34	0.52	1.29	0.44	1.34	0.42	1.33	0.37	1.34	0.37	1.34	0.48	1.31
3. Life Science (Grade 5)	13	0.56	1.70	0.65	1.63	0.55	1.70	0.57	1.67	0.51	1.70	0.53	1.70	0.60	1.65
4. Life Science (Grade 4)	9	0.52	1.39	0.56	1.32	0.46	1.40	0.46	1.37	0.41	1.42	0.46	1.41	0.54	1.33
5. Earth Science (Grade 5)	11	0.57	1.53	0.64	1.47	0.53	1.54	0.54	1.52	0.49	1.53	0.52	1.54	0.60	1.49
6. Earth Science (Grade 4)	8	0.58	1.27	0.64	1.24	0.55	1.27	0.56	1.26	0.46	1.28	0.49	1.27	0.61	1.24
Biology															
1. Investigation and Experimentation	6	0.42	1.13	0.52	1.09	0.38	1.13	0.43	1.11	0.33	1.14	0.32	1.14	0.47	1.10
2. Cell Biology	9	0.47	1.40	0.62	1.34	0.45	1.41	0.48	1.40	0.37	1.41	0.37	1.40	0.54	1.39
3. Genetics	18	0.68	1.97	0.76	1.85	0.64	1.98	0.67	1.94	0.60	1.99	0.61	1.98	0.73	1.92
4. Ecology and Evolution	16	0.71	1.84	0.76	1.74	0.69	1.85	0.67	1.83	0.66	1.86	0.66	1.85	0.74	1.79
5. Physiology	11	0.69	1.47	0.68	1.40	0.66	1.50	0.60	1.45	0.63	1.52	0.63	1.52	0.68	1.41
Chemistry															
1. Investigation and Experimentation	6	0.50	1.10	0.53	1.05	0.51	1.13	0.47	1.12	0.47	1.14	0.46	1.14	0.52	1.05
2. Atomic and Molecular Structure	8	0.45	1.30	0.50	1.25	0.45	1.31	0.38	1.31	0.41	1.32	0.40	1.32	0.48	1.27
3. Chemical Bonds, Biochemistry	9	0.55	1.38	0.59	1.33	0.48	1.41	0.51	1.40	0.47	1.41	0.47	1.40	0.56	1.37
4. Kinetics, Thermodynamics	14	0.62	1.71	0.66	1.67	0.62	1.72	0.55	1.73	0.56	1.73	0.54	1.73	0.66	1.68
5. Chemical Reactions	13	0.57	1.67	0.72	1.61	0.58	1.65	0.59	1.66	0.52	1.64	0.50	1.63	0.66	1.64
6. Conservation of Matter and Stoichiometry	10	0.64	1.41	0.69	1.30	0.60	1.44	0.62	1.41	0.57	1.44	0.55	1.44	0.65	1.38
Earth Science															
1. Investigation and Experimentation	6	0.54	1.10	0.56	1.07	0.50	1.11	0.52	1.08	0.45	1.13	0.45	1.12	0.59	1.06
2. Astronomy and Cosmology	12	0.67	1.57	0.65	1.58	0.62	1.60	0.62	1.59	0.59	1.60	0.58	1.59	0.68	1.55
3. Solid Earth	14	0.68	1.69	0.69	1.67	0.65	1.71	0.64	1.69	0.61	1.72	0.60	1.72	0.70	1.66
4. The Earth's Energy	28	0.79	2.45	0.80	2.43	0.75	2.47	0.77	2.46	0.71	2.46	0.70	2.46	0.81	2.43
Physics															
1. Investigation and Experimentation	6	0.45	1.13	0.51	1.08	0.41	1.14	0.41	1.13	0.38	1.14	0.31	1.14	0.51	1.08
2. Motion and Forces	12	0.62	1.58	0.63	1.49	0.62	1.59	0.55	1.58	0.55	1.61	0.53	1.61	0.63	1.52
3. Conservation of Energy and Momentum	12	0.72	1.53	0.71	1.47	0.67	1.56	0.64	1.56	0.64	1.56	0.60	1.56	0.71	1.52
4. Heat and Thermodynamics	9	0.60	1.35	0.60	1.31	0.58	1.36	0.55	1.36	0.53	1.38	0.51	1.38	0.61	1.31
5. Waves	10	0.60	1.46	0.62	1.43	0.49	1.48	0.57	1.46	0.50	1.44	0.46	1.43	0.63	1.45
6. Electric and Magnetic Phenomena	11	0.62	1.51	0.68	1.47	0.61	1.51	0.60	1.52	0.56	1.50	0.51	1.50	0.68	1.48

Subscore Reliabilities and SEM for Science by PRIMARY ETHNICITY															
Subscore Area	**# of items**	**Am. Ind.**		**Asian**		**Pac. Island**		**Filipino**		**Hispanic**		**African Am.**		**White**	
		Rel.	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*	*Rel.*	*SEM*
Integrated Science 1															
1. Investigation and Experimentation	6	0.42	1.11	0.44	1.11	0.33	1.12	0.38	1.11	0.30	1.12	0.26	1.12	0.42	1.11
2. Biology/Life Sciences	10	0.57	1.47	0.59	1.46	0.51	1.48	0.52	1.48	0.52	1.47	0.51	1.46	0.57	1.47
3. Chemistry	15	0.42	1.78	0.49	1.80	0.36	1.80	0.39	1.81	0.34	1.78	0.33	1.78	0.46	1.81
4. Earth Sciences	17	0.64	1.89	0.71	1.86	0.63	1.89	0.64	1.88	0.60	1.89	0.60	1.89	0.70	1.86
5. Physics	12	0.35	1.55	0.52	1.57	0.27	1.54	0.41	1.57	0.23	1.51	0.20	1.51	0.48	1.58
Integrated Science 2															
1. Investigation and Experimentation	6	0.24	1.16	0.27	1.15	0.04	1.17	0.17	1.17	0.14	1.15	0.16	1.15	0.32	1.15
2. Biology/Life Sciences	15	0.51	1.79	0.60	1.80	0.37	1.78	0.35	1.82	0.34	1.81	0.35	1.80	0.51	1.81
3. Chemistry	6	0.32	1.11	0.45	1.11	0.07	1.12	0.22	1.14	0.21	1.11	0.17	1.12	0.30	1.14
4. Earth Sciences	15	0.64	1.79	0.67	1.79	0.53	1.83	0.56	1.82	0.52	1.82	0.55	1.81	0.65	1.79
5. Physics	18	0.31	1.9	0.64	1.94	0.32	1.90	0.36	1.93	0.25	1.91	0.22	1.89	0.47	1.92
Integrated Science 3															
1. Investigation and Experimentation	6	0.32	1.16	0.32	1.15	0.42	1.07	0.57	1.07	0.29	1.13	0.36	1.10	0.48	1.11
2. Biology/Life Sciences	16	0.66	1.85	0.59	1.88	0.57	1.85	0.58	1.88	0.50	1.88	0.52	1.89	0.67	1.86
3. Chemistry	23	0.68	2.13	0.62	2.18	0.20	2.12	0.60	2.15	0.36	2.15	0.41	2.13	0.64	2.17
4. Earth Sciences	7	0.35	1.24	0.39	1.23	0.30	1.21	0.25	1.25	0.37	1.22	0.36	1.21	0.44	1.21
5. Physics	8	0.32	1.28	0.22	1.30	0.22	1.27	0.21	1.27	0.08	1.28	0.10	1.27	0.28	1.31
Integrated Science 4															
1. Investigation and Experimentation	6	-	-	0.54	1.11	-	-	0.41	1.04	0.45	1.11	0.64	1.04	0.61	1.00
2. Biology/Life Sciences	13	-	-	0.63	1.65	-	-	0.73	1.50	0.61	1.66	0.84	1.46	0.74	1.52
3. Chemistry	10	-	-	0.44	1.45	-	-	0.50	1.31	0.32	1.42	0.69	1.37	0.52	1.46
4. Earth Sciences	15	-	-	0.71	1.76	-	-	0.71	1.67	0.57	1.79	0.80	1.66	0.75	1.67
5. Physics	16	-	-	0.61	1.86	-	-	0.47	1.83	0.45	1.82	0.77	1.75	0.62	1.86

Appendix 8.B — Classification Reliability Tables

Table 8.B.1: Reliability of Classification for English-Language Arts Grade 2

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–20	0.08	0.03	0.00	0.00	0.00	0.11
	21–31	0.01	0.14	0.04	0.00	0.00	0.19
	32–45	0.00	0.02	0.24	0.02	0.00	0.28
	46–56	0.00	0.01	0.04	0.21	0.02	0.28
	57–65	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.78, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–20	0.08	0.03	0.00	0.00	0.00	0.11
	21–31	0.03	0.12	0.05	0.00	0.00	0.19
	32–45	0.00	0.03	0.21	0.04	0.00	0.28
	46–56	0.00	0.01	0.06	0.18	0.04	0.28
	57–65	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.89						

Table 8.B.2: Reliability of Classification for English-Language Arts Grade 3

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–23	0.12	0.03	0.00	0.00	0.00	0.15
	24–34	0.02	0.16	0.03	0.00	0.00	0.22
	35–47	0.00	0.04	0.24	0.03	0.00	0.31
	48–56	0.00	0.00	0.04	0.16	0.02	0.22
	57–65	0.00	0.00	0.00	0.03	0.08	0.10
	Estimated Proportion Correctly Classified: Total = 0.76, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–23	0.11	0.04	0.00	0.00	0.00	0.15
	24–34	0.04	0.14	0.05	0.00	0.00	0.22
	35–47	0.00	0.05	0.21	0.05	0.00	0.31
	48–56	0.00	0.00	0.05	0.13	0.03	0.22
	57–65	0.00	0.00	0.00	0.03	0.07	0.10
	Estimated Proportion Correctly Classified: Total = 0.66, Proficient and Above = 0.90						

Table 8.B.3: Reliability of Classification for English-Language Arts Grade 4 (Reading only)

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–21	0.05	0.03	0.00	0.00	0.00	0.08
	22–30	0.02	0.10	0.03	0.00	0.00	0.15
	31–46	0.00	0.02	0.24	0.03	0.00	0.29
	47–58	0.00	0.00	0.04	0.19	0.03	0.26
	59–75	0.00	0.00	0.00	0.03	0.19	0.22
	Estimated Proportion Correctly Classified: Total = 0.78, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–21	0.05	0.03	0.00	0.00	0.00	0.08
	22–30	0.03	0.08	0.04	0.00	0.00	0.15
	31–46	0.00	0.04	0.22	0.04	0.00	0.30
	47–58	0.00	0.00	0.05	0.16	0.04	0.26
	59–75	0.00	0.00	0.00	0.04	0.18	0.22
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.90						

Table 8.B.4: Reliability of Classification for English-Language Arts Grade 4 (Reading and Writing)

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–24	0.04	0.03	0.00	0.00	0.00	0.07
	25–33	0.02	0.08	0.03	0.00	0.00	0.13
	34–50	0.00	0.03	0.25	0.03	0.00	0.31
	51–63	0.00	0.00	0.04	0.20	0.03	0.28
	64–83	0.00	0.00	0.00	0.03	0.18	0.21
	Estimated Proportion Correctly Classified: Total = 0.75, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–24	0.04	0.03	0.00	0.00	0.00	0.07
	25–33	0.03	0.07	0.04	0.00	0.00	0.13
	34–50	0.00	0.04	0.22	0.05	0.00	0.31
	51–63	0.00	0.00	0.05	0.17	0.05	0.28
	64–83	0.00	0.00	0.00	0.04	0.17	0.21
	Estimated Proportion Correctly Classified: Total = 0.66, Proficient and Above = 0.89						

Table 8.B.5: Reliability of Classification for English-Language Arts Grade 5

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–25	0.09	0.03	0.00	0.00	0.00	0.11
	26–33	0.02	0.08	0.03	0.00	0.00	0.14
	34–49	0.00	0.03	0.27	0.03	0.00	0.32
	50–61	0.00	0.00	0.04	0.20	0.02	0.26
	62–75	0.00	0.00	0.00	0.03	0.14	0.17
	Estimated Proportion Correctly Classified: Total = 0.78, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–25	0.08	0.03	0.00	0.00	0.00	0.11
	26–33	0.03	0.07	0.04	0.00	0.00	0.14
	34–49	0.00	0.04	0.24	0.05	0.00	0.32
	50–61	0.00	0.00	0.05	0.17	0.04	0.26
	62–75	0.00	0.00	0.00	0.03	0.13	0.17
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.90						

Table 8.B.6: Reliability of Classification for English-Language Arts Grade 6

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–23	0.07	0.03	0.00	0.00	0.00	0.10
	24–33	0.02	0.12	0.03	0.00	0.00	0.17
	34–50	0.00	0.03	0.29	0.03	0.00	0.34
	51–61	0.00	0.00	0.04	0.18	0.02	0.24
	62–75	0.00	0.00	0.00	0.02	0.12	0.14
	Estimated Proportion Correctly Classified: Total = 0.78, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–23	0.07	0.03	0.00	0.00	0.00	0.10
	24–33	0.03	0.10	0.04	0.00	0.00	0.17
	34–50	0.00	0.04	0.26	0.04	0.00	0.34
	51–61	0.00	0.00	0.05	0.15	0.04	0.24
	62–75	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.91						

Table 8.B.7: Reliability of Classification for English-Language Arts Grade 7 (Reading only)

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–23	0.07	0.03	0.00	0.00	0.00	0.10
	24–34	0.02	0.13	0.03	0.00	0.00	0.18
	35–49	0.00	0.03	0.25	0.03	0.00	0.31
	50–61	0.00	0.00	0.04	0.20	0.03	0.27
	62–75	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.76, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–23	0.07	0.03	0.00	0.00	0.00	0.10
	24–34	0.03	0.11	0.04	0.00	0.00	0.18
	35–49	0.00	0.04	0.22	0.05	0.00	0.31
	50–61	0.00	0.00	0.05	0.18	0.04	0.27
	62–75	0.00	0.00	0.00	0.04	0.10	0.13
	Estimated Proportion Correctly Classified: Total = 0.67, Proficient and Above = 0.90						

Table 8.B.8: Reliability of Classification for English-Language Arts Grade 7 (Reading and Writing)

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–26	0.05	0.03	0.00	0.00	0.00	0.08
	27–37	0.02	0.11	0.04	0.00	0.00	0.17
	38–52	0.00	0.03	0.23	0.04	0.00	0.30
	53–66	0.00	0.00	0.04	0.24	0.03	0.31
	67–83	0.00	0.00	0.00	0.04	0.10	0.14
	Estimated Proportion Correctly Classified: Total = 0.74, Proficient and Above = 0.91						
Decision Consistency Alternate Form	0–26	0.05	0.03	0.00	0.00	0.00	0.08
	27–37	0.03	0.09	0.05	0.00	0.00	0.17
	38–52	0.00	0.05	0.20	0.06	0.00	0.30
	53–66	0.00	0.00	0.06	0.20	0.05	0.31
	67–83	0.00	0.00	0.00	0.04	0.09	0.14
	Estimated Proportion Correctly Classified: Total = 0.64, Proficient and Above = 0.88						

Table 8.B.9: Reliability of Classification for English-Language Arts Grade 8

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–23	0.07	0.03	0.00	0.00	0.00	0.10
	24–33	0.02	0.13	0.04	0.00	0.00	0.19
	34–48	0.00	0.03	0.27	0.03	0.00	0.33
	49–59	0.00	0.00	0.04	0.18	0.02	0.24
	60–75	0.00	0.00	0.00	0.03	0.12	0.15
	Estimated Proportion Correctly Classified: Total = 0.76, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–23	0.06	0.03	0.00	0.00	0.00	0.10
	24–33	0.03	0.11	0.05	0.00	0.00	0.19
	34–48	0.00	0.05	0.23	0.05	0.00	0.33
	49–59	0.00	0.00	0.05	0.15	0.04	0.24
	60–75	0.00	0.00	0.00	0.03	0.11	0.15
	Estimated Proportion Correctly Classified: Total = 0.67, Proficient and Above = 0.90						

Table 8.B.10: Reliability of Classification for English-Language Arts Grade 9

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–22	0.07	0.03	0.00	0.00	0.00	0.10
	23–32	0.02	0.13	0.03	0.00	0.00	0.19
	33–47	0.00	0.03	0.23	0.03	0.00	0.28
	48–58	0.00	0.00	0.03	0.17	0.03	0.23
	59–75	0.00	0.00	0.00	0.03	0.17	0.20
	Estimated Proportion Correctly Classified: Total = 0.77, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–22	0.07	0.04	0.00	0.00	0.00	0.10
	23–32	0.04	0.11	0.04	0.00	0.00	0.19
	33–47	0.00	0.04	0.20	0.04	0.00	0.28
	48–58	0.00	0.00	0.05	0.14	0.04	0.23
	59–75	0.00	0.00	0.00	0.03	0.16	0.20
	Estimated Proportion Correctly Classified: Total = 0.68, Proficient and Above = 0.91						

Table 8.B.11: Reliability of Classification for English-Language Arts Grade 10

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–25	0.11	0.03	0.01	0.01	0.00	0.15
	26–37	0.01	0.14	0.03	0.00	0.00	0.19
	38–53	0.00	0.02	0.26	0.02	0.00	0.30
	54–63	0.00	0.01	0.04	0.15	0.02	0.22
	64–75	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.77, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–25	0.10	0.04	0.01	0.01	0.00	0.15
	26–37	0.03	0.12	0.04	0.00	0.00	0.19
	38–53	0.00	0.04	0.23	0.03	0.00	0.30
	54–63	0.00	0.01	0.05	0.13	0.03	0.22
	64–75	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.90						

Table 8.B.12: Reliability of Classification for English-Language Arts Grade 11

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–26	0.14	0.04	0.01	0.01	0.00	0.20
	27–37	0.01	0.14	0.03	0.00	0.00	0.17
	38–51	0.00	0.02	0.23	0.02	0.00	0.27
	52–61	0.00	0.01	0.05	0.15	0.02	0.23
	62–75	0.00	0.00	0.00	0.03	0.10	0.13
	Estimated Proportion Correctly Classified: Total = 0.76, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–26	0.14	0.04	0.01	0.01	0.00	0.20
	27–37	0.02	0.11	0.04	0.00	0.00	0.17
	38–51	0.00	0.04	0.20	0.03	0.00	0.27
	52–61	0.00	0.01	0.06	0.13	0.03	0.23
	62–75	0.00	0.00	0.00	0.03	0.10	0.13
	Estimated Proportion Correctly Classified: Total = 0.67, Proficient and Above = 0.89						

Table 8.B.13: Reliability of Classification for History-Social Science Grade 8

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–22	0.12	0.05	0.00	0.00	0.00	0.18
	23–29	0.05	0.12	0.04	0.00	0.00	0.21
	30–42	0.00	0.05	0.23	0.03	0.00	0.30
	43–54	0.00	0.00	0.04	0.14	0.02	0.20
	55–75	0.00	0.00	0.00	0.02	0.09	0.11
	Estimated Proportion Correctly Classified: Total = 0.70, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–22	0.11	0.06	0.01	0.00	0.00	0.18
	23–29	0.06	0.09	0.06	0.00	0.00	0.21
	30–42	0.01	0.05	0.19	0.04	0.00	0.30
	43–54	0.00	0.00	0.05	0.12	0.03	0.20
	55–75	0.00	0.00	0.00	0.03	0.09	0.11
	Estimated Proportion Correctly Classified: Total = 0.60, Proficient and Above = 0.91						

Table 8.B.14: Reliability of Classification for History-Social Science Grade 10

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–20	0.20	0.04	0.01	0.00	0.00	0.25
	21–25	0.04	0.08	0.04	0.00	0.00	0.15
	26–36	0.00	0.04	0.22	0.03	0.00	0.29
	37–45	0.00	0.00	0.04	0.13	0.02	0.19
	46–60	0.00	0.00	0.00	0.02	0.09	0.12
	Estimated Proportion Correctly Classified: Total = 0.72, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–20	0.18	0.05	0.02	0.00	0.00	0.25
	21–25	0.05	0.06	0.05	0.00	0.00	0.15
	26–36	0.01	0.05	0.19	0.05	0.00	0.29
	37–45	0.00	0.00	0.05	0.11	0.03	0.19
	46–60	0.00	0.00	0.00	0.03	0.09	0.12
	Estimated Proportion Correctly Classified: Total = 0.62, Proficient and Above = 0.90						

Table 8.B.15: Reliability of Classification for History-Social Science Grade 11

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–18	0.15	0.05	0.00	0.00	0.00	0.20
	19–24	0.04	0.10	0.04	0.00	0.00	0.18
	25–34	0.00	0.04	0.18	0.03	0.00	0.25
	35–44	0.00	0.00	0.04	0.16	0.02	0.23
	45–60	0.00	0.00	0.00	0.02	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.70, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–18	0.13	0.05	0.01	0.00	0.00	0.20
	19–24	0.05	0.08	0.05	0.00	0.00	0.18
	25–34	0.01	0.05	0.15	0.05	0.00	0.25
	35–44	0.00	0.00	0.05	0.13	0.04	0.23
	45–60	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.60, Proficient and Above = 0.89						

Table 8.B.16: Reliability of Classification for Mathematics Grade 2

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–23	0.03	0.01	0.00	0.00	0.00	0.05
	24–37	0.01	0.13	0.03	0.00	0.00	0.17
	38–47	0.00	0.02	0.16	0.03	0.00	0.22
	48–56	0.00	0.00	0.04	0.21	0.03	0.28
	57–65	0.00	0.00	0.00	0.05	0.23	0.28
	Estimated Proportion Correctly Classified: Total = 0.77, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–23	0.03	0.01	0.00	0.00	0.00	0.05
	24–37	0.01	0.11	0.04	0.00	0.00	0.17
	38–47	0.00	0.04	0.13	0.05	0.00	0.22
	48–56	0.00	0.00	0.05	0.18	0.05	0.28
	57–65	0.00	0.00	0.00	0.05	0.22	0.28
	Estimated Proportion Correctly Classified: Total = 0.68, Proficient and Above = 0.89						

Table 8.B.17: Reliability of Classification for Mathematics Grade 3

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–21	0.02	0.01	0.00	0.00	0.00	0.04
	22–36	0.01	0.15	0.03	0.00	0.00	0.19
	37–46	0.00	0.03	0.16	0.04	0.00	0.22
	47–56	0.00	0.00	0.04	0.23	0.03	0.31
	57–65	0.00	0.00	0.00	0.04	0.21	0.24
	Estimated Proportion Correctly Classified: Total = 0.77, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–21	0.02	0.01	0.00	0.00	0.00	0.04
	22–36	0.01	0.14	0.04	0.00	0.00	0.19
	37–46	0.00	0.04	0.13	0.05	0.00	0.22
	47–56	0.00	0.00	0.05	0.20	0.05	0.31
	57–65	0.00	0.00	0.00	0.05	0.20	0.24
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.89						

Table 8.B.18: Reliability of Classification for Mathematics Grade 4

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–20	0.03	0.01	0.00	0.00	0.00	0.05
	21–35	0.01	0.15	0.03	0.00	0.00	0.19
	36–48	0.00	0.02	0.21	0.02	0.00	0.25
	49–56	0.00	0.00	0.04	0.17	0.03	0.24
	57–65	0.00	0.00	0.00	0.04	0.22	0.26
	Estimated Proportion Correctly Classified: Total = 0.78, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–20	0.03	0.02	0.00	0.00	0.00	0.05
	21–35	0.02	0.13	0.04	0.00	0.00	0.19
	36–48	0.00	0.03	0.19	0.04	0.00	0.25
	49–56	0.00	0.00	0.05	0.14	0.05	0.24
	57–65	0.00	0.00	0.00	0.05	0.21	0.26
	Estimated Proportion Correctly Classified: Total = 0.70, Proficient and Above = 0.89						

Table 8.B.19: Reliability of Classification for Mathematics Grade 5

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–21	0.09	0.03	0.00	0.00	0.00	0.12
	22–31	0.03	0.14	0.03	0.00	0.00	0.20
	32–42	0.00	0.03	0.17	0.03	0.00	0.24
	43–54	0.00	0.00	0.03	0.20	0.02	0.26
	55–65	0.00	0.00	0.00	0.03	0.16	0.19
	Estimated Proportion Correctly Classified: Total = 0.77, Proficient and Above = 0.94						
Decision Consistency Alternate Form	0–21	0.08	0.04	0.00	0.00	0.00	0.12
	22–31	0.04	0.12	0.05	0.00	0.00	0.20
	32–42	0.00	0.04	0.15	0.04	0.00	0.24
	43–54	0.00	0.00	0.04	0.18	0.03	0.26
	55–65	0.00	0.00	0.00	0.03	0.16	0.19
	Estimated Proportion Correctly Classified: Total = 0.68, Proficient and Above = 0.91						

Table 8.B.20: Reliability of Classification for Mathematics Grade 6

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–19	0.05	0.03	0.00	0.00	0.00	0.08
	20–31	0.02	0.19	0.03	0.00	0.00	0.25
	32–43	0.00	0.03	0.21	0.03	0.00	0.27
	44–55	0.00	0.00	0.03	0.21	0.02	0.26
	56–65	0.00	0.00	0.00	0.02	0.12	0.14
	Estimated Proportion Correctly Classified: Total = 0.78, Proficient and Above = 0.94						
Decision Consistency Alternate Form	0–19	0.05	0.03	0.00	0.00	0.00	0.08
	20–31	0.03	0.16	0.05	0.00	0.00	0.25
	32–43	0.00	0.05	0.18	0.04	0.00	0.27
	44–55	0.00	0.00	0.05	0.18	0.03	0.26
	56–65	0.00	0.00	0.00	0.03	0.11	0.14
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.91						

Table 8.B.21: Reliability of Classification for Mathematics Grade 7

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–18	0.07	0.04	0.00	0.00	0.00	0.10
	19–28	0.03	0.18	0.04	0.00	0.00	0.25
	29–40	0.00	0.04	0.21	0.03	0.00	0.27
	41–52	0.00	0.00	0.04	0.19	0.02	0.24
	53–65	0.00	0.00	0.00	0.02	0.10	0.13
	Estimated Proportion Correctly Classified: Total = 0.75, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–18	0.06	0.04	0.00	0.00	0.00	0.10
	19–28	0.04	0.15	0.05	0.00	0.00	0.25
	29–40	0.00	0.05	0.18	0.04	0.00	0.27
	41–52	0.00	0.00	0.05	0.16	0.03	0.24
	53–65	0.00	0.00	0.00	0.03	0.10	0.13
	Estimated Proportion Correctly Classified: Total = 0.66, Proficient and Above = 0.90						

Table 8.B.22: Reliability of Classification for General Mathematics

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–18	0.10	0.05	0.00	0.00	0.00	0.15
	19–28	0.04	0.23	0.04	0.00	0.00	0.31
	29–40	0.00	0.05	0.24	0.03	0.00	0.32
	41–52	0.00	0.00	0.04	0.15	0.01	0.19
	53–65	0.00	0.00	0.00	0.01	0.02	0.03
	Estimated Proportion Correctly Classified: Total = 0.74, Proficient and Above = 0.94						
Decision Consistency Alternate Form	0–18	0.09	0.06	0.00	0.00	0.00	0.15
	19–28	0.06	0.19	0.06	0.00	0.00	0.31
	29–40	0.00	0.06	0.21	0.04	0.00	0.32
	41–52	0.00	0.00	0.04	0.13	0.02	0.19
	53–65	0.00	0.00	0.00	0.01	0.02	0.03
	Estimated Proportion Correctly Classified: Total = 0.64, Proficient and Above = 0.91						

Table 8.B.23: Reliability of Classification for Algebra I

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–17	0.05	0.10	0.00	0.00	0.00	0.14
	18–25	0.04	0.28	0.05	0.00	0.00	0.37
	26–36	0.00	0.07	0.21	0.02	0.00	0.30
	37–50	0.00	0.00	0.03	0.12	0.01	0.16
	51–65	0.00	0.00	0.00	0.01	0.02	0.03
	Estimated Proportion Correctly Classified: Total = 0.68, Proficient and Above = 0.94						
Decision Consistency Alternate Form	0–17	0.06	0.08	0.01	0.00	0.00	0.14
	18–25	0.08	0.21	0.08	0.00	0.00	0.37
	26–36	0.01	0.07	0.18	0.04	0.00	0.30
	37–50	0.00	0.00	0.04	0.11	0.01	0.16
	51–65	0.00	0.00	0.00	0.01	0.02	0.03
	Estimated Proportion Correctly Classified: Total = 0.58, Proficient and Above = 0.92						

Table 8.B.24: Reliability of Classification for Geometry

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–19	0.09	0.05	0.00	0.00	0.00	0.13
	20–31	0.04	0.26	0.04	0.00	0.00	0.33
	32–43	0.00	0.04	0.20	0.03	0.00	0.27
	44–54	0.00	0.00	0.03	0.14	0.01	0.18
	55–64	0.00	0.00	0.00	0.02	0.06	0.08
	Estimated Proportion Correctly Classified: Total = 0.74, Proficient and Above = 0.94						
Decision Consistency Alternate Form	0–19	0.07	0.06	0.00	0.00	0.00	0.13
	20–31	0.06	0.22	0.06	0.00	0.00	0.33
	32–43	0.00	0.06	0.17	0.04	0.00	0.27
	44–54	0.00	0.00	0.04	0.12	0.02	0.18
	55–64	0.00	0.00	0.00	0.02	0.06	0.08
	Estimated Proportion Correctly Classified: Total = 0.65, Proficient and Above = 0.92						

Table 8.B.25: Reliability of Classification for Algebra II

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–21	0.14	0.05	0.00	0.00	0.00	0.19
	22–30	0.04	0.19	0.04	0.00	0.00	0.27
	31–40	0.00	0.05	0.19	0.03	0.00	0.27
	41–52	0.00	0.00	0.04	0.16	0.01	0.20
	53–64	0.00	0.00	0.00	0.02	0.05	0.06
	Estimated Proportion Correctly Classified: Total = 0.73, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–21	0.13	0.06	0.00	0.00	0.00	0.19
	22–30	0.05	0.16	0.06	0.00	0.00	0.27
	31–40	0.00	0.06	0.16	0.05	0.00	0.27
	41–52	0.00	0.00	0.04	0.14	0.02	0.20
	53–64	0.00	0.00	0.00	0.02	0.04	0.06
	Estimated Proportion Correctly Classified: Total = 0.63, Proficient and Above = 0.91						

Table 8.B.26: Reliability of Classification for Summative High School Mathematics

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–22	0.03	0.02	0.00	0.00	0.00	0.05
	23–36	0.01	0.18	0.04	0.00	0.00	0.22
	37–46	0.00	0.03	0.20	0.04	0.00	0.27
	47–57	0.00	0.00	0.04	0.26	0.02	0.32
	58–65	0.00	0.00	0.00	0.03	0.10	0.13
	Estimated Proportion Correctly Classified: Total = 0.76, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–22	0.03	0.02	0.00	0.00	0.00	0.05
	23–36	0.02	0.16	0.05	0.00	0.00	0.22
	37–46	0.00	0.05	0.16	0.06	0.00	0.27
	47–57	0.00	0.00	0.06	0.23	0.04	0.32
	58–65	0.00	0.00	0.00	0.04	0.10	0.13
	Estimated Proportion Correctly Classified: Total = 0.67, Proficient and Above = 0.88						

Table 8.B.27: Reliability of Classification for Integrated Mathematics 1

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–19	0.24	0.08	0.00	0.00	0.00	0.32
	20–29	0.12	0.29	0.03	0.00	0.00	0.44
	30–39	0.00	0.05	0.11	0.01	0.00	0.17
	40–51	0.00	0.00	0.01	0.05	0.00	0.06
	52–64	0.00	0.00	0.00	0.01	0.01	0.01
	Estimated Proportion Correctly Classified: Total = 0.69, Proficient and Above = 0.97						
Decision Consistency Alternate Form	0–19	0.19	0.13	0.00	0.00	0.00	0.32
	20–29	0.13	0.25	0.05	0.00	0.00	0.44
	30–39	0.00	0.05	0.09	0.02	0.00	0.17
	40–51	0.00	0.00	0.02	0.04	0.00	0.06
	52–64	0.00	0.00	0.00	0.01	0.01	0.01
	Estimated Proportion Correctly Classified: Total = 0.58, Proficient and Above = 0.96						

Table 8.B.28: Reliability of Classification for Integrated Mathematics 2

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–15	0.02	0.05	0.00	0.00	0.00	0.07
	16–23	0.02	0.20	0.06	0.00	0.00	0.27
	24–34	0.00	0.06	0.27	0.04	0.00	0.36
	35–47	0.00	0.00	0.05	0.18	0.01	0.23
	48–64	0.00	0.00	0.00	0.02	0.04	0.06
	Estimated Proportion Correctly Classified: Total = 0.71, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–15	0.03	0.04	0.00	0.00	0.00	0.07
	16–23	0.04	0.16	0.07	0.00	0.00	0.27
	24–34	0.00	0.07	0.23	0.06	0.00	0.36
	35–47	0.00	0.00	0.06	0.16	0.02	0.23
	48–64	0.00	0.00	0.00	0.02	0.04	0.06
	Estimated Proportion Correctly Classified: Total = 0.61, Proficient and Above = 0.88						

Table 8.B.29: Reliability of Classification for Integrated Mathematics 3

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–19	0.06	0.05	0.00	0.00	0.00	0.10
	20–27	0.03	0.17	0.05	0.00	0.00	0.25
	28–37	0.00	0.05	0.23	0.04	0.00	0.33
	38–50	0.00	0.00	0.04	0.20	0.01	0.25
	51–65	0.00	0.00	0.00	0.02	0.05	0.07
	Estimated Proportion Correctly Classified: Total = 0.71, Proficient and Above = 0.91						
Decision Consistency Alternate Form	0–19	0.05	0.05	0.00	0.00	0.00	0.10
	20–27	0.05	0.14	0.07	0.00	0.00	0.25
	28–37	0.01	0.07	0.19	0.06	0.00	0.33
	38–50	0.00	0.00	0.05	0.17	0.02	0.25
	51–65	0.00	0.00	0.00	0.02	0.05	0.07
	Estimated Proportion Correctly Classified: Total = 0.60, Proficient and Above = 0.88						

Table 8.B.30: Reliability of Classification for Science Grade 5

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–17	0.06	0.05	0.00	0.00	0.00	0.11
	18–24	0.03	0.15	0.05	0.00	0.00	0.23
	25–36	0.00	0.05	0.29	0.04	0.00	0.38
	37–48	0.00	0.00	0.05	0.18	0.01	0.23
	49–60	0.00	0.00	0.00	0.02	0.03	0.05
	Estimated Proportion Correctly Classified: Total = 0.71, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–17	0.06	0.05	0.01	0.00	0.00	0.11
	18–24	0.05	0.11	0.07	0.00	0.00	0.23
	25–36	0.01	0.07	0.25	0.06	0.00	0.38
	37–48	0.00	0.00	0.06	0.16	0.02	0.23
	49–60	0.00	0.00	0.00	0.02	0.03	0.05
	Estimated Proportion Correctly Classified: Total = 0.60, Proficient and Above = 0.89						

Table 8.B.31: Reliability of Classification for Biology

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–16	0.05	0.04	0.00	0.00	0.00	0.09
	17–22	0.02	0.10	0.05	0.00	0.00	0.18
	23–36	0.00	0.04	0.33	0.03	0.00	0.41
	37–47	0.00	0.00	0.04	0.17	0.02	0.23
	48–60	0.00	0.00	0.00	0.02	0.07	0.09
	Estimated Proportion Correctly Classified: Total = 0.72, Proficient and Above = 0.92						
Decision Consistency Alternate Form	0–16	0.05	0.04	0.01	0.00	0.00	0.09
	17–22	0.04	0.08	0.06	0.00	0.00	0.18
	23–36	0.01	0.06	0.29	0.05	0.00	0.41
	37–47	0.00	0.00	0.05	0.15	0.03	0.23
	48–60	0.00	0.00	0.00	0.02	0.06	0.09
	Estimated Proportion Correctly Classified: Total = 0.63, Proficient and Above = 0.89						

Table 8.B.32: Reliability of Classification for Chemistry

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–17	0.06	0.04	0.00	0.00	0.00	0.10
	18–24	0.02	0.13	0.05	0.00	0.00	0.20
	25–38	0.00	0.04	0.35	0.03	0.00	0.42
	39–48	0.00	0.00	0.04	0.15	0.01	0.20
	49–60	0.00	0.00	0.00	0.02	0.05	0.07
	Estimated Proportion Correctly Classified: Total = 0.74, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–17	0.06	0.04	0.01	0.00	0.00	0.10
	18–24	0.04	0.10	0.06	0.00	0.00	0.20
	25–38	0.01	0.06	0.31	0.05	0.00	0.42
	39–48	0.00	0.00	0.05	0.12	0.02	0.20
	49–60	0.00	0.00	0.00	0.02	0.05	0.07
	Estimated Proportion Correctly Classified: Total = 0.64, Proficient and Above = 0.90						

Table 8.B.33: Reliability of Classification for Earth Science

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–17	0.12	0.05	0.00	0.00	0.00	0.18
	18–23	0.05	0.12	0.05	0.00	0.00	0.22
	24–37	0.00	0.05	0.30	0.03	0.00	0.37
	38–47	0.00	0.00	0.04	0.13	0.01	0.18
	48–60	0.00	0.00	0.00	0.02	0.04	0.06
	Estimated Proportion Correctly Classified: Total = 0.72, Proficient and Above = 0.94						
Decision Consistency Alternate Form	0–17	0.11	0.06	0.01	0.00	0.00	0.18
	18–23	0.06	0.09	0.06	0.00	0.00	0.22
	24–37	0.01	0.06	0.27	0.04	0.00	0.37
	38–47	0.00	0.00	0.04	0.11	0.02	0.18
	48–60	0.00	0.00	0.00	0.02	0.04	0.06
	Estimated Proportion Correctly Classified: Total = 0.62, Proficient and Above = 0.91						

Table 8.B.34: Reliability of Classification for Physics

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–18	0.12	0.05	0.00	0.00	0.00	0.17
	19–24	0.04	0.10	0.04	0.00	0.00	0.18
	25–38	0.00	0.04	0.28	0.03	0.00	0.34
	39–48	0.00	0.00	0.04	0.15	0.02	0.22
	49–60	0.00	0.00	0.00	0.02	0.07	0.09
	Estimated Proportion Correctly Classified: Total = 0.71, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–18	0.10	0.05	0.01	0.00	0.00	0.17
	19–24	0.05	0.08	0.05	0.00	0.00	0.18
	25–38	0.01	0.05	0.24	0.04	0.00	0.34
	39–48	0.00	0.00	0.05	0.13	0.03	0.22
	49–60	0.00	0.00	0.00	0.03	0.06	0.09
	Estimated Proportion Correctly Classified: Total = 0.62, Proficient and Above = 0.90						

Table 8.B.35: Reliability of Classification for Integrated Science 1

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–16	0.13	0.07	0.00	0.00	0.00	0.20
	17–23	0.05	0.22	0.06	0.00	0.00	0.32
	24–37	0.00	0.07	0.31	0.01	0.00	0.40
	38–47	0.00	0.00	0.03	0.04	0.00	0.07
	48–60	0.00	0.00	0.00	0.00	0.00	0.01
	Estimated Proportion Correctly Classified: Total = 0.70, Proficient and Above = 0.96						
Decision Consistency Alternate Form	0–16	0.12	0.08	0.01	0.00	0.00	0.20
	17–23	0.08	0.16	0.08	0.00	0.00	0.32
	24–37	0.01	0.08	0.28	0.03	0.00	0.40
	38–47	0.00	0.00	0.03	0.04	0.00	0.07
	48–60	0.00	0.00	0.00	0.00	0.00	0.01
	Estimated Proportion Correctly Classified: Total = 0.60, Proficient and Above = 0.94						

Table 8.B.36: Reliability of Classification for Integrated Science 2

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–17	0.12	0.09	0.00	0.00	0.00	0.21
	18–23	0.06	0.21	0.06	0.00	0.00	0.33
	24–37	0.00	0.08	0.30	0.01	0.00	0.40
	38–47	0.00	0.00	0.02	0.03	0.00	0.05
	48–60	0.00	0.00	0.00	0.00	0.00	0.01
	Estimated Proportion Correctly Classified: Total = 0.66, Proficient and Above = 0.97						
Decision Consistency Alternate Form	0–17	0.11	0.09	0.02	0.00	0.00	0.21
	18–23	0.09	0.15	0.09	0.00	0.00	0.33
	24–37	0.02	0.09	0.27	0.02	0.00	0.40
	38–47	0.00	0.00	0.02	0.03	0.00	0.05
	48–60	0.00	0.00	0.00	0.00	0.00	0.01
	Estimated Proportion Correctly Classified: Total = 0.56, Proficient and Above = 0.96						

Table 8.B.37: Reliability of Classification for Integrated Science 3

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–15	0.04	0.13	0.00	0.00	0.00	0.18
	16–21	0.04	0.27	0.06	0.00	0.00	0.37
	22–35	0.00	0.09	0.28	0.01	0.00	0.37
	36–46	0.00	0.00	0.02	0.04	0.00	0.07
	47–60	0.00	0.00	0.00	0.00	0.00	0.01
	Estimated Proportion Correctly Classified: Total = 0.64, Proficient and Above = 0.96						
Decision Consistency Alternate Form	0–15	0.07	0.09	0.02	0.00	0.00	0.18
	16–21	0.10	0.18	0.09	0.00	0.00	0.37
	22–35	0.02	0.09	0.25	0.02	0.00	0.37
	36–46	0.00	0.00	0.03	0.04	0.00	0.07
	47–60	0.00	0.00	0.00	0.00	0.00	0.01
	Estimated Proportion Correctly Classified: Total = 0.54, Proficient and Above = 0.95						

Table 8.B.38: Reliability of Classification for Integrated Science 4

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy All-forms Average	0–18	0.15	0.04	0.00	0.00	0.00	0.20
	19–24	0.04	0.10	0.04	0.00	0.00	0.18
	25–38	0.00	0.04	0.30	0.03	0.00	0.37
	39–48	0.00	0.00	0.04	0.15	0.01	0.21
	49–60	0.00	0.00	0.00	0.02	0.02	0.05
	Estimated Proportion Correctly Classified: Total = 0.72, Proficient and Above = 0.93						
Decision Consistency Alternate Form	0–18	0.13	0.05	0.01	0.00	0.00	0.20
	19–24	0.05	0.08	0.05	0.00	0.00	0.18
	25–38	0.01	0.05	0.26	0.05	0.00	0.37
	39–48	0.00	0.00	0.05	0.13	0.03	0.21
	49–60	0.00	0.00	0.00	0.02	0.02	0.05
	Estimated Proportion Correctly Classified: Total = 0.62, Proficient and Above = 0.90						

Chapter 9: Constructed Response Items

This chapter presents the characteristics of the California Writing Standards Tests administered at grades 4 and 7 during the spring 2005 administration. The details of the scoring rubrics, scoring process, recruiting and training of raters (or scorers), quality control of the writing tasks and the accuracy of scoring were described in the first section of the chapter. The second section summarizes the test-level statistics obtained for the current administration of the Writing tests. The analyses included inter-rater and generalizability studies associated with the scores, raters and writing prompts. The descriptive statistics on the writing scores are also presented for the overall examinee population and various subgroups based on the P2 sample.

Grade 4 and 7 Writing Test Composition

The ELA CSTs at grades 4 and 7 contain a single essay. In grade four, the standards require students to produce four types of writing: narratives, summaries, information reports, and responses to literature. In grade seven, they require students to produce five types of writing: narratives, persuasive essays, summaries, responses to literature, and research reports.

The Grade 4 and Grade 7 ELA CSTs do not assess "information reports" in grade four nor "research reports" in grade seven because these writing tasks would require extended time for students to gather information and/or research topics before writing could begin. In addition, the narrative writing tested in grades four and seven does not include personal or autobiographical narrative. Writing that would invite personal disclosure was not tested in any genre on the CSTs in writing.

Essay prompt genres vary from year to year, however, within a given testing year only one genre of essay is tested. In 2005 the genre tested was "Narrative." Two different essay prompts are used in a given year. One is taken by the majority of test takers, the other is used for makeup testers.

All multiple-choice questions and writing tasks for the CSTs administered in 2005 were aligned to the California content standards and had been tried out on students throughout the state. The CST blueprints identify the specific standards tested. These blueprints are available at http://www.cde.ca.gov/ta/tg/sr/blueprints.asp.

Scoring Rubric

Student responses to the writing tasks administered in 2005 were scored using a four-point holistic rubric, with four being the highest score. Two readers evaluated each response, and the student's reported score was the sum of these two ratings. If the two readers assigned scores that differed by more than one point, a third reader scored the response. If a third reader was needed, the third reader's score was added either to the score to which it was identical or to the higher of the two scores to which it was adjacent. If the third reader's score was adjacent to only one score, it was added to that score. If a response was difficult to score, the scorer escalated the response to the scoring supervisor to be scored.

Each student's result on the grade four or grade seven writing task was reported as a separate writing applications score that could range from 0 to 8. This score was combined with the student's multiple-choice score on the CST in English-Language Arts to determine the student's overall English-language arts performance level.

It is important to note that the four score points on the scoring rubric are not intended to map to the performance levels used to show overall student performance on the ELA CST. A score of four given to a student response by one reader, for example, does not equate to the advanced level on the CST performance-level scale, a three does not equate to the proficient level, and so on. Nor does a student's overall essay score based on the sum of the two readers' scores map to a CST performance level. An overall writing test score of 7 or 8, for example, does not indicate a performance level of advanced, a score of 5 or 6 does not indicate a performance level of proficient, and so on. A student can be said to have achieved at a particular performance level only when that student's performance-level result is based on results of the full CST in English-Language Arts (including the CST in Writing).

A detailed description of the scoring rubrics for both grades 4 and 7 are presented in Appendix 9.A on page 347.

Rater Characteristics

The people who scored the student responses were college graduates who possessed at least a B.A. degree. California teachers participated in range finding, the process used to select sample student responses used for training scorers. Each prospective scorer was required to participate in extensive computer-based training.

The training consisted of the following:

- General information about the Electronic Performance Evaluation Network (ePEN™).
- Background information about the STAR Program.
- Information on the STAR writing tasks.
- Explanations of STAR scoring rubrics and scoring principles.
- Sets of prescored annotated training papers. The training papers included anchor and practice papers. Anchor papers were solid samples of student writing for each score point (1–4). Practice papers included samples of student writing that demonstrated the "high" and "low" end of each score point.

After completing the training, participants completed the Qualification Sets (three sets of papers consisting of ten papers per set) before being eligible to score. To become a scorer, participants must score with exact accuracy on at least 70 percent of the papers, achieve agreement with the predetermined score on two of the sets or as an average across two of the three sets, and have no nonadjacent scores (more than one point apart from the predetermined score). Scorers continue to qualify throughout the scoring process. Before each scoring session, each scorer scored a Calibration Set of three to four papers. The scores on these sets had been previously agreed upon by scoring directors, in conjunction with other personnel. The sets were given to scorers to ensure that the accuracy of their scoring did not drift. These sets "calibrated" the scorers.

Scoring Supervisors and Directors

Scoring supervisors monitored and mentored scorers during operational scoring. Scorers with a history of achieving the highest accuracy on the Qualification Sets and the highest level of scoring consistency and validity statistics during project scoring were selected as scoring supervisors. Approximately ten scorers were assigned to one scoring supervisor; this ratio allowed scoring supervisors to work closely with each scorer. The ePEN system also allows scoring supervisors to continuously monitor each response scored and the score point assigned to ensure accuracy. All scoring supervisors participated in a two-day training session that provided the same training that qualified scorers. If a scoring supervisor did not achieve the accuracy required on the Qualification Sets, he or she was not allowed to be a

supervisor. In addition, all supervisors received extensive training on how the ePEN system works, how to best manage scorers, and how to maintain accuracy as scoring continues.

Scoring directors were responsible for overseeing the scoring of the grade level to which they are assigned. They provided leadership for the scoring supervisors, helped manage the scorers, and were ultimately responsible for maintaining accuracy during STAR scoring. Scoring directors represented the best of the scoring supervisors. They typically had two to three years experience as scoring supervisors and demonstrated a thorough understanding of STAR scoring and very strong leadership qualities.

All student responses were scanned into the ePEN™ system. Scorers viewed assigned responses on a computer at one of Pearson Educational Measurement's regional scoring centers. The screen does *not* display the student's name or background information; the scorer sees only the student response. Scoring supervisors and scoring directors were on site to monitor the scoring.

Accuracy and Bias Monitoring

The accuracy of all scoring was monitored on a regular basis.

First, consistency between scorers was calculated based on whether the first and second scorers assigned identical, adjacent, or nonadjacent scores. This consistency measure is called inter-rater reliability. Scoring supervisors and scoring directors constantly monitored agreement percentages. If a scorer's rate of agreement began to decline, the scorer was retrained by a scoring supervisor or scoring director and closely monitored thereafter. If the scorer's performance did not improve, the scorer was released.

Second, one in every 40 papers read by each scorer had been previously scored by scoring directors and scoring supervisors. These previously scored papers are referred to as validity papers. The consistency of the scorer's ratings with the scores on the validity papers was checked throughout the day to ensure that each scorer applied the criteria in the scoring guides accurately. The validity papers were introduced throughout the scoring process. If a scorer's validity fell below required levels, the scorer was retrained by a scoring supervisor or scoring director. If a scorer continued to show poor validity, the scorer was released.

Third, scoring supervisors "back-read" a certain percentage of the student responses that had been scored by the scorers. The scorer and supervisor scores were then compared to check the scorer's consistency and reliability and to ensure that the scorer was maintaining scoring standards. In addition, ePEN allowed scoring directors to view the back-reading completed by scoring supervisors to ensure that scoring supervisors were maintaining accuracy. Scoring directors would also back-read scorers.

Fourth, to help prevent drifting, scorers were required to score a Calibration Set before each scoring session. If a scorer was deficient on any of the accuracy indices, he or she was immediately retrained or released from the scoring process.

All writing tasks were reviewed to ensure that they were free of bias and controversial content and that they exhibited sensitivity to all students. Any tasks that did not meet these criteria were either modified and resubmitted for field-testing or removed from the pool of useable tasks.

Essay and Rater Agreement Summary

As described earlier, for each grade level, there were two different writing prompts administered at two different times in the STAR testing cycle. Students were given one of the two writing prompts depending upon which writing test administration they sat for. In 2005, 468,960 students wrote the essay (and had valid ratings) in grade 4 and 470,446 wrote the essay in grade 7. Since two raters independently scored responses on the essay prompt, it is important for reliable scoring that the two raters agreed in the scoring of the essay prompt as much as possible. It is also important to look at the effect of the assigned writing prompt on the scores. For this purpose, two sets of analyses were performed: (1) Inter-rater agreement analyses, and)2) Generalizability analyses.

The inter-rater reliability or consistency is defined as the degree to which the measure assessed by two or more raters is in agreement when the same instrument is administered to the same person. It is an indicator of homogeneity and is most frequently measured using Intraclass Correlation which looks at the exact agreement beyond chance. The index is defined as,

$$ICC = r_I = (ms_{between} - ms_{within})/(ms_{between} + [k - 1]ms_{within}) \qquad (9.1)$$

where,

$ms_{between}$ is the mean-square estimate of between-subjects variance, and

ms_{within} is the mean-square estimate of within-subjects variance.

For categorical ratings, Cohen's Kappa statistic has the properties of an intraclass correlation coefficient and can be used for inter-rater reliability. Cohen's Kappa was therefore used as a primary indicator of the inter-rater reliability of the writing tests. In addition, the percentages of ratings where the raters were in exact agreement or within a 1-point difference were also computed.

The results of these analyses are presented in Appendix 9.B on page 353. As shown in Tables 9.B.1 and 9.B.2, the percentage of students for whom the raters were in exact agreement was 76% for grade 4 and 75% for grade 7. The Kappa statistics showed moderate levels of agreement beyond chance for both grades 4 and 7. The overall mean scores given by the two raters were very similar for both grades 4 and 7 as presented in Table 9.B.3.

Generalizability analyses were performed to quantify the proportion of variance explained by various possible sources of variation including raters, writing prompt and persons (desired variance). A generalizability study (g-study) was performed to estimate variance components for each source of variation also known as "facet." A decision study (d-study) was performed to estimate the generalizability coefficient. The well-known computer program, GENOVA, was used to carry out these analyses (Brennan, 2001; Crick and Brennan, 1983). Since two raters scored each student's response but each student did not receive the same prompt, a nested unbalanced design was studied as described below:

Design = (Person : Essay) x Rater

As shown in Tables 9.B.4 and 9.B.5, no significant variation was attributed to rater or writing prompt differences. Note that performance on the writing prompt was confounded with the sample of students who were administered the prompt; therefore, it is difficult to interpret this source of variation. The Generalizability coefficient was found to be 0.69 for grade 4 and 0.68 for grade 7.

Composite Reliability for Grades 4 and 7

The reliability of the total scores on ELA at grades 4 and 7 (for the students who took the writing prompt) were computed by using the Composite reliability formula (Feldt and Brennan, 1989):

$$\alpha_c = 1 - \frac{\sum_{j=1}^{k} \left(w_j \sigma_{e_j} \right)^2}{\sigma_c^2} \qquad (9.2)$$

where

k is the number of part scores in the composite,

w_j is the weight associated with the j-th part score,

σ_{e_j} is the SEM of the j-th part score, and

σ_c^2 is the variance of the composite score.

The reliability of the essays can be found indirectly by examining the correlation between the MC and essay components in relation to the MC reliability. The lower bound reliability for a CR item in a test with multiple-choice items and only one CR item can be found using the squared correlation between the MC and essay (CR) portions of the test and dividing by the reliability of the MC portion of the test ($(Corr_{Essay\text{-}MC})^2/Rel_{MC}$).

The SEM for the essay (i.e., the CR portion of the test) can then be found using:

$$\sigma_{e_{CR}} = \sigma_{CR} * \sqrt{1 - reliability_{CR}} \qquad (9.3)$$

The reliabilities for the multiple choice scores were 0.94 and 0.93 for grades 4 and 7 respectively. The composite reliabilities for the combined MC and essay scores were 0.92 and 0.91 for the two tests. The approximate lower bound reliabilities for essays were found to be 0.24 and 0.27 for grades 4 and 7 respectively.

Distributions and Means of Writing Scores — Overall and by Subgroup

The mean scores obtained on the Writing tests for the overall population and for various subgroups are presented in Tables 9.B.6 and 9.B.7. These analyses were performed on subgroups based on gender, ethnicity, enrollment in NSLP, provision of special services, and language proficiency. The distributions of examinees across score points for the overall population and for the subgroups are presented in Tables 9.B.8 and 9.B.9.

The majority of examinees who took Writing tests were of Hispanic origin (49% at grade 4, 47% at grade 7) followed by Whites (30% at grade 4, 32% at grade 7). The tables indicated that the overall mean score was 4.07 at grade 4 and 4.30 at grade 7. Females scored slightly higher than males at both grades 4 and 7. Asians scored highest (mean = 4.41) among all ethnic groups followed by Filipinos (mean = 4.32) at grade 4. Similar pattern was observed at grade 7 where Asians had a mean score of 4.64 and Filipinos had a mean score of 4.57. Hispanics scored lower compared to the other groups with a mean score of 3.90 at grade 4 and 4.08 at grade 7. As expected, examinees with special services and examinees declared as English learners scored lower than the other groups. Very few examinees with special services took the Writing test; however, the proportion of English learners was considerably higher (31% at grade 4, and 21% at grade 7).

For the overall population and for the subgroups, the majority of examinees received a rating of 4 score points. Approximately, 67% of the examinee population received a rating of 4 at grade 4, while 63% of the examinees received a rating of 4 at grade 7. Approximately, 19% of the examinees received a rating of 5 or higher at grade 4 and 29% of the examinee population received such scores at grade 7. In summary, approximately 86% of examinees at grade 4 and 92% of examinees at grade 7 received a rating of 4 or higher.

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Appendix 9.A — Writing Scoring Rubrics

Grade Four Scoring Rubric

The scoring rubric shown below was used to assign scores to students' written responses on the grade four writing tests. This rubric includes two sets of criteria. The criteria under "The Writing" are adapted from the English-language arts content standards for Writing Strategies and Written Conventions of English. These criteria are used to evaluate written responses in all genres for their clarity of purpose, central idea, and organization and for their use of supporting evidence, sentence variety, and writing conventions. The criteria under "Narrative writing," "Summary writing," and "Response to literature writing," adapted from the grade four Writing Applications Content Standards for these genres, are used to evaluate student writing in the specific genres to which they apply.

Score: 4

The Writing:

Clearly addresses all parts of the writing task.

Demonstrates a *clear* understanding of purpose.

Maintains a *consistent* point of view, focus, and organizational structure, including paragraphing when appropriate.

Includes a *clearly presented* central idea with *relevant* facts, details, and/or explanations.

Includes a *variety* of sentence types.

Contains *few, if any, errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors do **not** interfere with the reader's understanding of the writing.

Narrative writing:

Provides a *thoroughly developed* sequence of *significant* events to relate ideas, observations, and/or memories.

Includes *vivid* descriptive language and sensory details that enable the reader to visualize the events or experiences.

Summary writing:

Is characterized by paraphrasing of the main idea(s) and *significant* details.

Response to literature writing:

Demonstrates a *clear* understanding of the literary work.

Provides *effective* support for judgments through *specific* references to text and prior knowledge.

Score: 3

The Writing:

Addresses all parts of the writing task.

Demonstrates a *general* understanding of purpose.

Maintains a *mostly consistent* point of view, focus, and organizational structure, including paragraphing when appropriate.

Presents a central idea with *mostly* relevant facts, details, and/or explanations.

Includes a *variety* of sentence types.

Contains *some errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors do **not** interfere with the reader's understanding of the writing.

Narrative writing

Provides an *adequately developed* sequence of significant

Includes *some* descriptive language and sensory details that enable the reader to visualize the events or experiences.

Summary writing

Is characterized by paraphrasing of the main idea(s) and and/or explanations. *significant* details.

Response to literature writing

Demonstrates an understanding of the literary work.

Provides *some* support for judgments through references to text and prior knowledge.

Score: 2

The Writing:

Addresses *only parts* of the writing task.

Demonstrates *little* understanding of purpose.˜

Maintains an *inconsistent* point of view, focus, and/or organizational structure.

S*uggests* a central idea with *limited* facts, details, and/or explanations.

Includes *little* variety in sentence types.

Contains *several errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors **may** interfere with the reader's understanding of the writing.

Narrative writing:

Provides a *minimally developed* sequence of events to relate ideas, observations, and/or memories.

Includes *limited* descriptive language and sensory details.

Summary writing:

Is characterized by *substantial* copying of key phrases and *minimal* paraphrasing.

Response to literature writing:

Demonstrates a *limited* understanding of the literary work.

Provides *weak* support for judgments.

Score: 1

The Writing:

Addresses *only one part* of the writing task.

Demonstrates *no* understanding of purpose.

Lacks a clear point of view, focus, and/or organizational structure.

Lacks a central idea but may contain *marginally related* facts, details, and/or explanations.

Includes *no* sentence variety.

Contains *serious errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors interfere with the reader's understanding of the writing.

Narrative writing:

Lacks a sequence of events to relate ideas, observations, and/or memories.

Lacks descriptive language and sensory details that enable the reader to visualize the events or experiences.

Summary writing:

Is characterized by substantial copying of *indiscriminately selected* phrases or sentences.

Response to literature writing:

Demonstrates little understanding of the literary work.

Fails to provide support for judgments.

Grade Seven Scoring Rubric

The scoring rubric that follows was used to assign scores to students' written responses on the grade seven writing tests. This rubric includes two sets of criteria. The criteria under "The Writing" are adapted from the English-Language Arts California content standards for Writing Strategies and Written Conventions of English. These criteria are used to evaluate written responses in all genres for their clarity of purpose, central idea, and organization; their coherence; and their use of supporting evidence, sentence variety, and writing conventions. The criteria under "Fictional or autobiographical narrative writing," "Response to literature writing," "Persuasive writing," and "Summary writing," adapted from the grade seven content standards for Writing Applications for these genres, are used to evaluate student writing in the specific genres to which they apply.

Score: 4

The Writing:

Clearly addresses all parts of the writing task.

Demonstrates a *clear* understanding of purpose and audience.

Maintains a *consistent* point of view, focus, and organizational structure, including the *effective* use of transitions.

Includes a *clearly presented* central idea with *relevant* facts, details, and/or explanations.

Includes a *variety* of sentence types.

Contains *few, if any, errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors do **not** interfere with the reader's understanding of the writing.

Fictional or autobiographical narrative writing:

Provides a *thoroughly developed* plot line, including major and minor characters and a *definite* setting.

Includes *appropriate* strategies (e.g., dialogue; suspense; narrative action).

Response to literature writing:

Develops interpretations that demonstrate a *thoughtful,* comprehensive grasp of the text.

Organizes *accurate and coherent* interpretations around *clear* ideas, premises, or images from the literary work.

Provides *specific* textual examples and details to support the interpretations.

Persuasive writing:

Authoritatively defends a position with precise and relevant evidence and *convincingly* addresses the reader's concerns, biases, and expectations.

Summary writing:

Is characterized by paraphrasing of the main idea(s) and *significant* details.

Score: 3

The Writing:

Addresses all parts of the writing task.

Demonstrates a *general* understanding of purpose and audience.

Maintains a *mostly consistent* point of view, focus, and organizational structure, including the *effective* use of some transitions.

Presents a central idea with *mostly relevant* facts, details, and/or explanations.

Includes a *variety* of sentence types.

Contains *some errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors do **not** interfere with the reader's understanding of the writing.

Fictional or autobiographical narrative writing:

Provides an *adequately developed* plot line, including major and minor characters and a *definite* setting.

Includes *appropriate* strategies (e.g., dialogue; suspense; narrative action).

Response to literature writing:

Develops interpretations that demonstrate a comprehensive grasp of the text.

Organizes accurate and *reasonably* coherent interpretations around *clear* ideas, premises, or images from the literary work.

Provides textual examples and details to support the interpretations.

Persuasive writing

Generally defends a position with relevant evidence and addresses the reader's concerns, biases, and expectations.

Summary writing

Is characterized by paraphrasing of the main idea(s) and *significant* details.

Score: 2

The Writing:

Addresses *only parts* of the writing task.

Demonstrates *little* understanding of purpose and audience.

Maintains an *inconsistent* point of view, focus, and/or organizational structure, which may include *ineffective or awkward* transitions that do not unify important ideas.

Suggests a central idea with *limited* facts, details, and/or explanations.

Includes *little* variety in sentence types.

Contains *several errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors **may** interfere with the reader's understanding of the writing.

Fictional or autobiographical narrative writing:

Provides a *minimally developed* plot line, including characters and a setting.

Attempts to use strategies but with *minimal* effectiveness (e.g., dialogue; suspense; narrative action).

Response to literature writing:

Develops interpretations that demonstrate a *limited* grasp of the text.

Includes interpretations that *lack* accuracy or coherence as related to ideas, premises, or images from the literary work.

Provides *few, if any,* textual examples and details to support the interpretations.

Persuasive writing:

Defends a position with *little, if any,* evidence and *may* address the reader's concerns, biases, and expectations.

Summary writing:

Is characterized by *substantial* copying of key phrases and *minimal* paraphrasing.

Score: 1

The Writing:

Addresses *only one part* of the writing task.

Demonstrates *no* understanding of purpose and audience.

Lacks a point of view, focus, organizational structure, and transitions that unify important ideas.

Lacks a central idea but may contain *marginally related* facts, details, and/or explanations.

Includes *no* sentence variety.

Contains *serious errors* in the conventions of the English language (grammar, punctuation, capitalization, spelling). These errors interfere with the reader's understanding of the writing.

Fictional or autobiographical narrative writing:

Lacks a developed plot line.

Fails to use strategies (e.g., dialogue; suspense; narrative action).

Response to literature writing:

Demonstrates *little* grasp of the text.

Lacks an interpretation or may be a simple retelling of the passage.

Lacks textual examples and details.

Persuasive writing:

Fails to defend a position with *any* evidence and *fails* to address the reader's concerns, biases, and expectations.

Summary writing:

Is characterized by substantial copying of *indiscriminately selected* phrases or sentences.

Appendix 9.B — Essay Results Tables

Table 9.B.1: Inter-Rater Analyses for ELA Grade 4

		Rater 1								
		1	%	2	%	3	%	4	%	Total
Rater 2	1	28917	6.17	21457	4.58	270	0.06	6	0.00	50650
	2	21433	4.57	305056	65.05	29856	6.37	1084	0.23	357429
	3	270	0.06	30368	6.48	22541	4.81	2596	0.55	55775
	4	5	0.00	1184	0.25	2607	0.56	1310	0.28	5106
	Total	50625		358065		55274		4996		468960

Percent Exact= 76.30%

Percent Adjacent= 23.10%

Kappa= 0.40

Weighted Kappa= 0.45

Table 9.B.2: Inter-Rater Analyses for ELA Grade 7

		Rater 1								
		1	%	2	%	3	%	4	%	Total
Rater 2	1	16673	3.54	12513	2.66	153	0.03	3	0.00	29342
	2	12257	2.61	291943	62.06	42454	9.02	622	0.13	347276
	3	184	0.04	43127	9.17	44319	9.42	2304	0.49	89934
	4	2	0.00	668	0.14	2435	0.52	789	0.17	3894
	Total	29116		348251		89361		3718		470446

Percent Exact= 75.19%

Percent Adjacent= 24.46%

Kappa= 0.40

Weighted Kappa= 0.44

Table 9.B.3: Descriptive Statistics for the Ratings by the Two Raters

Grades	N*	Rater 1		Rater 2		
		Mean	Std	Mean	Std	*Pearson Correlation*
4	468960	2.03	0.52	2.03	0.52	0.53
7	470446	2.15	0.52	2.14	0.51	0.51

* Number of students who received valid ratings of 1–4

Table 9.B.4: Generalizability Analyses for Grade 4 Essay — [(Person: Essay) x Rater Design]

Effect	Degrees of Freedom	Sum of Squares	Mean Squares	Variance Components
E	1	182.933	182.933	0.002
P:E	468958	191766.904	0.409	0.141
R	1	0.516	0.516	0.000
ER	1	0.000	0.000	0.000
PR:E	468958	59823.483	0.128	0.128
Note: E=Essay, P=Person and R=Raters			**G-Coefficient=0.688**	

Table 9.B.5: Generalizability Analyses for Grade 7 Essay — [(Person: Essay) x Rater Design)]

Effect	Degrees of Freedom	Sum of Squares	Mean Squares	Variance Components
E	1	330.468	330.468	0.006
P:E	470444	187373.452	0.398	0.135
R	1	0.519	0.519	0.000
ER	1	0.364	0.364	0.000
PR:E	470444	60820.617	0.129	0.129
Note: E=Essay, P=Person and R=Raters			**G-Coefficient=0.675**	

Table 9.B.6: Mean Scores for ELA Grade 4 Essay — Overall and by Subgroup

Overall	Females	Males	Am. Ind.	Asian	Pac. Isl	Filipino	Hisp.	Af. Am.	White
4.07	4.23	3.92	3.93	4.41	4.12	4.32	3.90	3.93	4.27
		Eng-best	**Initially Fluent**	**Lrnr**	**Redesig. Fluent**	**Not in NSLP**	**NSLP**	**No Spec. Ser.**	**Spec. Ser.**
		4.17	4.29	3.78	4.35	4.31	3.89	4.13	3.49

Table 9.B.7: Mean Scores for ELA Grade 7 Essay — Overall and by Subgroup

Overall	Females	Males	Am. Ind.	Asian	Pac. Isl	Filipino	Hisp.	Af. Am.	White
4.30	4.46	4.14	4.22	4.64	4.32	4.57	4.08	4.12	4.53
		Eng-best	**Initially Fluent**	**Lrnr**	**Redesig. Fluent**	**Not in NSLP**	**NSLP**	**No Spec. Ser.**	**Spec. Ser.**
		4.43	4.50	3.79	4.42	4.51	4.08	4.36	3.60

Table 9.B.8: Distribution of Essay Scores for ELA Grade 4 — Overall and by Subgroup

Score	Total	Females	Males	Am. Ind.	Asian	Pac. Isl	Filipino	Hisp.	Af. Am.	White
0	0.38	0.13	0.24	0.01	0.04	0.00	0.01	0.19	0.03	0.11
2	6.23	1.89	4.34	0.07	0.30	0.02	0.06	3.99	0.60	1.22
3	7.51	2.74	4.77	0.07	0.39	0.04	0.11	4.58	0.69	1.66
4	66.79	32.54	34.25	0.54	5.52	0.45	1.74	34.35	5.22	19.05
5	11.73	7.08	4.65	0.08	1.50	0.08	0.45	4.41	0.72	4.47
6	5.65	3.70	1.95	0.03	0.92	0.04	0.21	1.59	0.28	2.55
7	1.31	0.88	0.43	0.01	0.24	0.01	0.05	0.25	0.05	0.69
8	0.40	0.28	0.12	0.00	0.09	0.00	0.02	0.05	0.01	0.23
Total	100	49.24	50.75	0.81	9.00	0.64	2.65	49.41	7.60	29.98

Score		Eng-best	Initially Fluent	Lrnr	Redesig. Fluent	Not in NSLP	NSLP	No Spec. Ser.	Spec. Ser.
0		0.20	0.01	0.16	0.01	0.14	0.23	0.30	0.08
2		2.73	0.23	3.19	0.08	1.48	4.74	4.24	1.98
3		3.55	0.40	3.37	0.19	2.17	5.35	6.22	1.28
4		36.24	5.47	21.06	4.02	27.92	38.88	61.81	4.90
5		7.35	1.23	2.14	1.01	6.81	4.92	11.25	0.47
6		3.87	0.67	0.61	0.49	3.88	1.76	5.45	0.19
7		0.96	0.16	0.08	0.11	1.03	0.29	1.27	0.04
8		0.31	0.05	0.01	0.03	0.35	0.06	0.39	0.01
Total		55.21	8.22	30.62	5.94	43.78	56.23	90.93	8.95

Table 9.B.9: Distribution of Essay Scores for ELA Grade 7 — Overall and by Subgroup

Score	Total	Females	Males	Am. Ind	Asian	Pac. Isl	Filipino	Hisp.	Af. Am.	White
0	0.36	0.13	0.23	0.01	0.03	0.00	0.00	0.18	0.04	0.10
2	3.37	0.95	2.43	0.03	0.16	0.01	0.02	2.31	0.34	0.51
3	4.41	1.40	3.01	0.04	0.20	0.02	0.05	2.84	0.46	0.80
4	62.99	29.37	33.61	0.53	5.00	0.43	1.51	32.31	5.27	18.09
5	17.06	9.88	7.18	0.12	2.18	0.11	0.62	5.87	1.05	7.11
6	10.45	6.73	3.73	0.07	1.58	0.06	0.40	2.78	0.54	4.99
7	1.07	0.72	0.35	0.01	0.25	0.00	0.05	0.15	0.04	0.58
8	0.29	0.20	0.10	0.00	0.08	0.00	0.01	0.03	0.01	0.16
Total	100	49.38	50.64	0.81	9.48	0.63	2.66	46.47	7.75	32.34

Score		Eng-best	Initially Fluent	Lrnr	Redesig. Fluent	Not in NSLP	NSLP	No Spec. Ser.	Spec. Ser.
0		0.19	0.01	0.14	0.02	0.15	0.21	0.28	0.08
2		1.23	0.09	1.97	0.08	0.87	2.5	2.05	1.32
3		1.85	0.18	2.14	0.25	1.34	3.07	3.23	1.18
4		33.79	4.94	14.91	9.34	29.37	33.6	57.85	5.06
5		11.13	1.67	1.40	2.86	10.97	6.09	16.60	0.45
6		7.36	1.14	0.37	1.59	7.5	2.96	10.29	0.15
7		0.80	0.14	0.01	0.12	0.89	0.18	1.05	0.02
8		0.22	0.04	0.00	0.03	0.26	0.04	0.29	0.00
Total		56.57	8.21	20.94	14.29	51.35	48.65	91.64	8.26

Chapter 10: Historical Comparisons

This chapter presents historical comparisons of various statistical indicators depicting the examinee and test characteristics of CSTs over a period of three years (2003, 2004, and 2005). The comparisons of examinee performance included mean and standard deviation of scale scores, observed score ranges, and the percentage of examinees classified into proficient and advanced categories. The test quality was compared by looking at the mean proportion correct, overall reliability and SEM as well as mean IRT b-value for each CST. Most of the analyses reported in this chapter were calculated on the data files that were used for final reporting. The mean IRT b-values were calculated on smaller equating samples. This information may differ slightly from information found on the California Web site.

Examinee Performance

The number of examinees taking various CSTs across three years is presented in Table 10.A.1 on page 359. The table also presents mean scale scores and the standard deviation of scale scores for each CST for the same period of time. The examinee population taking CSTs has increased substantially for most of the higher-level CSTs in all subject areas. A moderate increase in the number of examinees was also observed for middle-level CSTs. For grades 2 and 3, the numbers decreased by a significant percentage in the current administration for both ELA and math CSTs. General Math exhibited a consistent shrinkage in the examinee population; the numbers were reduced from 438,427 in 2003 to 406,992 in 2004 and 368,957 in 2005. The numbers also exhibited a consistent reduction for the integrated math and science CSTs except for the Integrated Science 1 CST, where a 10% increase in numbers was observed.

The mean scale scores are presented in Table 10.A.1 and indicate a consistent increase in the mean scores (1% to 6%) for majority of the CSTs. The percentages of students qualifying for the proficient and advanced categories are presented in Table 10.A.2. Students attain one of five levels of performance on the CSTs for each subject tested: advanced, proficient, basic, below basic, and far below basic. The State Board of Education has established the proficient level as the desired achievement goal for all students. This goal for all students is consistent with school growth targets for State accountability and the new federal requirements under the No Child Left Behind Act. In 2005, a slight increase was observed in the examinees qualifying for the proficient and advanced levels for a majority of the CSTs

Prior to 2003, the CST scale scores could extend as high as 752 and as low as 0. The policy of setting the highest possible scale score to 600 and the lowest possible score to 150 was introduced by the CDE at the 2003 administration. This scale truncation affected very few students. Tables 10.A.3 to 10.A.10 show the score distributions for each test across time. On all CSTs, an examinee is required to obtain a score of 300 to reach the basic level and 350 or higher to be classified as proficient.

Test Characteristics

The results of CSTs over past several years indicate that the CSTs meet the technical criteria established in professional standards for high-stakes tests. However, efforts are consistently being made to improve the technical quality of the test every year that it is administered. For example, over the past few years, differences between the difficulty levels of the field-test items and the operational items for some tests remained an issue of concern. Efforts have been made to increase the development of easier items to compensate for the relatively large numbers of field-test items at the high end of the difficulty scale. The benefits of this initiative were observed in the results obtained on CSTs during

2004 and continued in the current administration. Tables 10.B.1 and 10.B.2 respectively present the average proportion correct and the mean IRT b-value[11] for each CST across three years.

The mean biserial correlation for the 36 CSTs are presented in Table 10.B.3. The biserial correlations of all ELA and history-social science CSTs and most of the math and science CSTs either stayed the same as 2004 or increased slightly in 2005.

In 2002, the reliabilities of the CSTs were generally higher for the ELA and mathematics CSTs and lower for science and history-social science CSTs. These lower reliabilities may have occurred because item pool shortages necessitated the inclusion of less highly discriminating items. Hence efforts were made to field-test larger number of items in 2003 and 2004 to provide additional items in order to improve the reliabilities of these CSTs. Table 10.B.4 shows that reliability of all ELA and history-social science CSTs and most of the math and science CSTs either remained the same as 2004 or increased in 2005. The reliabilities of the grade-specific ELA and math CSTs remained consistently high across the three years.

In the case of English-language arts, several content revisions occurred prior to the 2003 administration: Stanford 9 items were no longer included, and new CST blueprints were established. In spite of the fact that beginning from 2003, the ELA CSTs have been shortened from 90 to 75 items (in most grades), these tests had the highest reliabilities, ranging from 0.92 to 0.94 across all grades over time.

In addition, prior to 2003 administration, the Grade 9 History-Social Science CST was discontinued and a new Grade 8 History-Social Science CST was developed. This test has shown a very modest but consistent increase in the reliability over time.

[11] Comparisons of mean b-values should only be made within a given test.

References

Educational Testing Service. *STAR Technical Report, Spring 2003 Administration*. Princeton, NJ: Educational Testing Service, 2003.

Educational Testing Service. *STAR Technical Report, Spring 2004 Administration*. Princeton, NJ: Educational Testing Service, 2004.

Appendix 10.A — Historical Comparisons Tables

Table 10.A.1: Number of Examinees Tested, Scale Score Means and Standard Deviations of CSTs Across 2003, 2004, and 2005

Subject	CST	Number of Examinees (valid scores)			Scale Score Mean and Standard Deviation					
					2003		2004		2005	
		2003	2004	2005	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.
ELA	2	475,958	472,591	466,054	332	56	330	59	336	61
	3	481,246	480,611	473,158	324	61	322	60	324	61
	4	475,575	481,030	479,413	339	50	339	52	346	54
	5	473,745	482,859	485,359	332	47	338	54	340	56
	6	479,861	480,290	483,008	332	52	333	51	335	54
	7	477,359	484,682	481,346	330	52	332	55	337	55
	8	456,264	487,417	489,007	324	50	328	52	334	55
	9	470,879	485,694	512,712	333	55	331	56	340	60
	10	416,277	446,091	458,455	324	52	328	56	328	58
	11	357,365	384,229	407,408	321	61	320	60	323	64
History -Social Science	8	455,348	482,505	487,088	321	46	319	52	324	55
	10	408,196	439,011	451,731	317	58	318	60	321	61
	11	349,843	377,819	400,563	329	57	326	59	329	64
Math	2	478,715	475,179	466,147	357	77	358	79	366	83
	3	484,064	483,304	472,847	344	74	353	77	362	78
	4	483,007	487,766	480,644	344	67	343	64	354	70
	5	475,808	484,724	485,291	332	74	336	76	350	89
	6	481,069	480,879	482,447	331	62	335	63	340	70
	7	482,393	488,074	481,761	325	58	328	64	334	66
	General Math	438,427	406,992	368,957	306	52	306	50	310	52
	Algebra I	495,719	603,559	675,464	309	57	305	54	308	55
	Geometry	266,905	298,372	331,509	317	59	314	58	315	66
	Algebra II	161,177	180,865	195,481	318	65	312	60	314	63
	High School Math	75,099	80,062	90,632	331	87	341	72	346	71
	Integrated Math 1	13,897	9,401	8,503	278	45	278	46	276	50
	Integrated Math 2	9,563	7,875	6,653	324	51	315	55	325	54
	Integrated Math 3	10,029	4,408	3,551	301	64	321	64	328	67
Science	Grade 5 Science	N/A	483,931	484,500	N/A	N/A	318	44	325	48
	Biology	329,729	394,912	451,532	333	48	330	45	331	46
	Chemistry	152,205	180,379	196,248	330	47	326	46	327	45
	Earth Science	88,407	133,741	172,443	316	40	315	43	319	43
	Physics	44,429	52,103	59,149	325	48	323	49	326	48
	Integrated Science 1	61,146	100,861	110,724	298	31	294	32	300	32
	Integrated Science 2	25,546	24,461	20,563	298	35	299	35	298	29
	Integrated Science 3	10,317	5,852	3,398	298	31	302	30	300	30
	Integrated Science 4	1,498	1,576	1,031	297	39	301	33	316	44

Table 10.A.2: Percentage of Proficient and Above and Percentage of Advanced Across 2003, 2004, and 2005

Subject	CST	% Proficient and Above			% Advanced		
		2003	2004	2005	2003	2004	2005
ELA	2	37%	36%	42%	12%	13%	14%
	3	34%	31%	32%	11%	9%	10%
	4	40%	40%	48%	16%	17%	20%
	5	36%	40%	43%	10%	16%	17%
	6	36%	36%	38%	13%	12%	14%
	7	37%	38%	43%	10%	12%	13%
	8	32%	33%	39%	9%	11%	15%
	9	38%	37%	43%	14%	12%	20%
	10	33%	35%	36%	11%	14%	14%
	11	32%	32%	36%	11%	10%	13%
History-Social Science	8	27%	27%	31%	6%	8%	11%
	10	27%	27%	31%	10%	10%	12%
	11	34%	32%	36%	12%	11%	14%
Math	2	53%	51%	56%	24%	23%	28%
	3	46%	48%	55%	19%	21%	24%
	4	46%	45%	50%	18%	18%	26%
	5	35%	38%	45%	10%	12%	19%
	6	35%	35%	40%	10%	12%	14%
	7	30%	33%	37%	7%	10%	13%
	General Math	20%	20%	22%	2%	3%	3%
	Algebra I	22%	18%	19%	4%	3%	3%
	Geometry	26%	24%	26%	6%	6%	8%
	Algebra II	29%	24%	26%	7%	6%	6%
	High School Math	43%	41%	46%	13%	12%	13%
	Integrated Math 1	7%	7%	8%	1%	1%	1%
	Integrated Math 2	27%	21%	29%	5%	5%	6%
	Integrated Math 3	21%	27%	32%	4%	6%	7%
Science	Grade 5 Science	N/A	24%	29%	N/A	3%	5%
	Biology	37%	30%	32%	11%	8%	9%
	Chemistry	31%	29%	27%	10%	8%	7%
	Earth Science	22%	22%	23%	3%	5%	6%
	Physics	30%	29%	31%	10%	9%	9%
	Integrated Science 1	7%	5%	7%	1%	0%	1%
	Integrated Science 2	8%	8%	5%	1%	1%	1%
	Integrated Science 3	7%	8%	8%	2%	1%	1%
	Integrated Science 4	12%	8%	25%	2%	0%	5%

Table 10.A.3: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for English-Language Arts (Grades 2 through 6)

Observed Score Distributions	ELA Grade 2			ELA Grade 3			ELA Grade 4			ELA Grade 5			ELA Grade 6		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	240	453	743	308	395	451	66	11	76	2	70	165	8	54	77
540 – 569	0	0	0	0	0	0	139	39	198	17	348	712	83	226	366
510 – 539	887	1,560	2,235	1,311	1,147	1,547	377	484	454	52	0	0	280	608	0
480 – 509	1,813	2,970	4,224	2,685	2,358	3,006	1,842	2,032	2,307	486	2,582	4,203	730	1,079	2,639
450 – 479	7,314	10,500	6,105	4,312	8,312	10,057	6,601	8,161	9,042	3,236	6,241	9,047	5,717	7,343	6,525
420 – 449	19,751	15,290	27,237	21,378	13,183	14,883	22,955	22,166	31,161	12,685	24,641	28,915	17,978	19,474	24,432
390 – 419	49,410	49,224	47,297	43,618	37,371	39,173	43,316	56,508	64,700	38,962	55,283	47,682	45,713	36,472	45,011
360 – 389	71,250	66,274	72,987	62,872	58,713	57,171	84,007	74,224	91,621	85,226	75,059	84,812	70,509	75,862	83,780
330 – 359	94,531	86,513	85,816	84,558	85,835	83,246	98,630	92,603	84,773	95,169	93,203	93,026	99,972	98,051	93,375
300 – 329	83,370	80,321	77,478	85,966	90,387	88,861	102,071	99,152	90,860	107,987	92,321	95,381	103,656	107,234	93,405
270 – 299	81,964	83,589	62,192	74,260	78,988	77,256	79,811	87,345	67,195	95,141	77,732	73,303	80,513	82,316	75,789
240 – 269	53,950	61,796	65,215	59,332	62,788	59,590	33,745	34,713	34,104	32,629	48,068	41,372	44,894	46,087	49,444
210 – 239	10,723	13,295	13,483	36,770	37,363	34,681	1,887	3,457	2,755	2,023	6,999	6,238	9,375	5,150	7,875
180 – 209	681	739	986	3,579	3,415	3,012	86	70	115	81	259	448	370	294	245
150 – 179	74	67	56	297	356	224	42	65	52	49	53	55	63	40	45

Table 10.A.4: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for English-Language Arts (Grades 7 through 11)

Observed Score Distributions	ELA Grade 7			ELA Grade 8			ELA Grade 9			ELA Grade 10			ELA Grade 11		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	5	17	20	2	12	22	12	49	257	4	65	101	7	57	83
540 – 569	58	3	82	29	59	134	0	0	0	30	244	0	30	0	0
510 – 539	124	236	185	101	208	401	244	153	656	101	0	534	127	202	292
480 – 509	640	1,249	1,410	670	1,284	2,495	1,303	1,223	3,661	233	1,956	1,340	956	1,284	2,116
450 – 479	3,344	6,331	7,116	3,569	3,365	5,596	3,851	6,394	13,757	2,771	5,420	6,324	2,949	3,389	5,510
420 – 449	17,331	19,222	22,191	12,529	14,933	21,349	25,959	20,380	31,833	12,778	15,827	18,956	13,930	15,342	15,567
390 – 419	42,144	54,657	61,840	29,574	44,588	51,400	44,345	50,983	61,729	31,520	40,781	47,242	36,133	25,451	39,163
360 – 389	78,339	78,151	83,931	63,374	74,155	74,287	83,004	71,041	75,413	67,587	66,054	71,927	46,449	59,481	64,927
330 – 359	97,939	84,149	93,564	101,910	95,167	99,057	81,584	91,863	91,011	75,621	80,790	75,217	64,409	64,303	61,136
300 – 329	94,738	98,494	82,554	90,505	102,937	95,149	85,135	88,066	85,017	78,075	81,849	80,602	56,885	70,469	66,682
270 – 299	72,970	76,000	68,819	85,870	85,562	82,581	73,465	80,021	76,573	73,872	76,487	71,449	49,299	52,388	50,654
240 – 269	55,422	51,686	46,684	50,819	49,614	45,431	61,789	60,557	62,502	63,352	61,858	61,442	48,982	53,483	56,849
210 – 239	13,435	13,781	12,089	15,975	14,628	10,566	9,313	14,085	9,467	9,598	14,044	22,252	32,029	31,693	36,653
180 – 209	807	648	826	1,263	826	488	736	743	727	637	612	999	4,785	6,207	7,268
150 – 179	63	58	35	74	79	51	139	136	109	98	104	70	395	480	508

Table 10.A.5: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for History-Social Science (Grades 8, 10, and 11)

Observed Score Distributions	History-Social Science Grade 9	History-Social Science Grade 8		History-Social Science Grade 10			History-Social Science Grade 11		
	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	27	91	301	239	371	446	118	224	716
540 – 569	52	149	396	400	594	724	256	400	839
510 – 539	215	686	535	688	980	1,162	1,133	700	1,312
480 – 509	525	1,447	3,194	2,605	3,136	3,714	2,382	2,581	3,917
450 – 479	2,718	5,863	5,932	4,478	5,197	6,023	6,609	6,924	9,249
420 – 449	6,477	10,797	17,109	14,855	16,755	19,190	15,345	15,630	19,297
390 – 419	27,490	27,502	32,581	22,397	32,642	28,938	29,537	29,722	36,124
360 – 389	55,012	58,013	61,892	45,670	42,504	57,816	46,768	48,544	55,174
330 – 359	92,444	78,867	78,294	65,537	69,826	67,504	55,013	58,779	58,562
300 – 329	107,943	97,630	96,114	67,426	69,995	85,737	74,565	79,637	60,881
270 – 299	106,390	116,251	103,888	87,542	101,705	83,464	73,800	76,429	73,020
240 – 269	46,713	75,071	77,194	78,745	70,889	67,306	34,192	40,710	59,422
210 – 239	8,698	9,637	9,251	15,797	21,612	25,131	9,228	15,585	19,387
180 – 209	582	441	354	1,582	2,491	4,316	745	1,767	2,400
150 – 179	62	60	53	235	314	260	152	187	263

Table 10.A.6: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Mathematics (Grades 2 through 6)

Observed Score Distributions	Math Grade 2			Math Grade 3			Math Grade 4			Math Grade 5			Math Grade 6		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	3,738	3,819	4,760	1,937	6,988	3,871	2,426	1,906	4,163	1,866	2,376	9,326	773	1,857	1,947
540 – 569	8,415	7,340	9,788	4,873	0	8,184	0	0	0	2,139	2,608	7,219	1,775	0	3,757
510 – 539	0	10,218	13,188	0	6,906	11,439	5,756	4,309	9,091	3,103	7,748	8,196	2,578	2,233	5,313
480 – 509	12,573	12,254	15,809	17,600	18,269	13,394	0	6,588	12,988	8,844	10,475	17,933	3,428	6,557	6,345
450 – 479	32,641	28,344	34,476	11,424	22,282	30,223	20,478	17,982	15,061	18,019	19,304	29,136	14,502	14,426	15,435
420 – 449	37,323	30,619	35,602	40,292	36,287	32,361	27,937	33,724	33,645	30,072	23,043	30,237	19,027	24,739	26,757
390 – 419	57,377	62,732	66,089	44,193	61,907	63,632	63,690	49,349	68,200	34,532	44,799	41,181	38,914	37,534	49,326
360 – 389	69,650	59,973	57,610	71,908	58,608	71,004	74,616	71,693	74,104	49,002	50,481	51,877	55,083	62,207	63,280
330 – 359	72,800	79,459	71,457	79,857	75,598	72,477	83,703	84,255	78,939	67,533	67,016	62,676	76,422	73,071	76,493
300 – 329	67,476	65,047	56,205	69,963	69,680	57,840	72,451	84,292	68,209	78,553	87,145	72,551	101,270	97,625	75,976
270 – 299	55,778	56,871	42,899	65,285	62,179	52,422	57,578	72,422	61,015	81,066	77,072	60,896	94,165	97,546	81,807
240 – 269	35,573	31,956	33,749	45,186	42,125	35,306	49,060	50,378	36,905	64,433	55,189	55,311	57,901	54,946	57,761
210 – 239	17,584	18,581	16,577	22,633	18,577	16,349	23,003	10,056	16,011	29,106	30,828	29,943	13,926	7,459	16,410
180 – 209	6,386	6,580	6,506	7,633	3,571	3,959	2,079	745	2,192	5,912	5,427	7,780	1,207	608	1,719
150 – 179	1,401	1,386	1,432	1,280	327	386	230	67	121	1,628	1,213	1,029	98	71	121

Table 10.A.7: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Mathematics (Grade 7, General Math, Algebra I, Geometry, and Algebra II)

Observed Score Distributions	Math Grade 7			General Math			Algebra I			Geometry			Algebra II		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	1,103	1,644	2,104	77	34	26	666	693	665	334	346	647	420	234	339
540 – 569	0	1,649	0	0	0	48	990	480	1,095	435	366	1,328	531	285	390
510 – 539	1,238	2,235	5,033	98	183	94	1,493	1,300	814	699	557	1,875	668	388	539
480 – 509	3,926	6,017	3,536	547	237	502	2,112	2,981	3,592	2,086	2,518	2,364	948	1,116	1,618
450 – 479	9,495	8,063	14,837	1,382	1,739	1,266	6,482	4,878	6,067	4,750	3,767	5,703	3,819	2,605	2,311
420 – 449	13,843	22,151	27,175	7,443	6,606	6,570	10,809	12,825	13,195	8,739	8,889	10,632	5,482	5,409	6,843
390 – 419	32,688	38,115	43,909	17,015	18,289	18,750	21,817	22,093	34,489	15,028	15,980	22,889	9,403	10,113	10,051
360 – 389	62,871	58,197	60,329	45,110	37,324	38,224	42,713	43,277	46,069	24,364	28,087	28,855	18,401	14,760	20,954
330 – 359	76,441	80,012	76,078	73,838	64,570	61,448	66,882	69,127	97,925	36,966	37,296	48,144	22,389	29,094	28,307
300 – 329	101,910	87,293	77,418	86,136	82,520	71,450	95,840	108,152	127,984	55,488	65,688	54,686	29,949	32,074	33,985
270 – 299	102,494	93,449	84,272	89,937	93,195	78,177	129,552	169,249	187,177	56,997	63,937	62,196	27,847	37,397	41,367
240 – 269	63,364	68,406	66,331	76,723	67,247	68,239	90,322	129,263	124,262	49,781	54,265	57,540	25,480	34,009	27,237
210 – 239	11,551	19,245	19,133	34,620	31,505	22,436	23,124	34,974	28,843	10,650	15,767	30,860	13,934	10,820	17,337
180 – 209	1,355	1,418	1,438	5,062	3,336	1,558	2,564	3,875	2,944	530	802	3,544	1,734	2,380	3,786
150 – 179	114	180	168	439	207	169	353	392	343	58	107	246	172	181	417

Table 10.A.8: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Mathematics (Summative High School Math and Integrated Math 1, 2, and 3)

Observed Score Distributions	Summative H. S. Math			Integrated Math 1			Integrated Math 2			Integrated Math 3		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	350	311	324	11	4	9	4	15	9	10	17	16
540 – 569	1,023	664	763	7	7	8	14	14	5	28	13	5
510 – 539	0	977	1,214	15	8	6	16	18	19	27	26	37
480 – 509	1,627	1,261	1,541	14	16	19	45	68	33	94	32	35
450 – 479	2,108	3,168	3,805	40	18	28	103	95	72	137	108	105
420 – 449	4,833	3,564	4,507	67	56	49	265	154	196	191	161	104
390 – 419	7,967	7,931	10,163	170	114	125	615	401	481	494	211	265
360 – 389	10,058	10,728	13,714	418	245	264	1,087	578	798	749	415	392
330 – 359	11,028	13,602	16,110	910	651	558	1,638	1,263	1,118	1,176	794	615
300 – 329	10,426	14,333	13,980	1,880	1,246	1,026	2,566	1,663	1,616	1,474	957	724
270 – 299	8,692	11,488	12,337	3,258	2,553	1,862	1,973	2,026	1,423	1,959	837	600
240 – 269	4,700	6,754	6,969	4,729	2,982	2,809	1,075	1,350	740	2,525	513	420
210 – 239	3,752	3,953	3,833	2,045	1,299	1,368	154	210	115	936	248	167
180 – 209	5,258	1,167	1,163	306	168	316	5	16	24	209	60	51
150 – 179	3,277	161	209	27	34	56	3	4	4	20	16	15

Table 10.A.9: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Science (Biology, Chemistry, Earth Science, and Physics)

Observed Score Distributions	Grade 5 Science		Biology			Chemistry			Earth Science			Physics		
	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	3	26	66	57	279	104	97	109	0	6	11	16	19	6
540 – 569	30	118	0	0	0	0	0	0	0	0	0	0	0	0
510 – 539	105	341	264	238	656	275	293	293	1	17	34	45	58	27
480 – 509	590	1,595	634	552	1,167	508	458	479	13	49	96	65	120	74
450 – 479	1,414	3,509	2,865	2,137	6,153	1,691	1,633	1,563	70	310	527	239	450	410
420 – 449	7,041	10,172	9,413	10,072	10,417	4,054	3,814	3,838	654	1,208	1,890	940	1,347	1,473
390 – 419	21,141	30,072	29,662	26,041	28,091	8,806	9,960	11,156	3,084	5,493	7,570	2,917	3,841	4,446
360 – 389	49,769	68,308	50,084	61,054	63,540	23,308	22,358	26,410	9,716	15,052	19,315	6,520	6,124	8,778
330 – 359	93,778	94,980	72,540	87,548	96,664	30,613	36,287	43,400	17,002	23,473	35,887	8,933	9,473	11,267
300 – 329	141,637	112,295	69,769	94,708	120,932	41,560	50,457	49,351	22,569	33,650	39,673	9,159	11,695	11,993
270 – 299	106,602	109,297	64,739	79,136	91,951	31,049	38,239	43,618	26,494	34,196	48,939	10,478	12,931	14,471
240 – 269	55,651	45,044	26,483	30,782	30,159	9,392	15,359	14,764	8,275	18,566	17,298	4,709	5,588	5,768
210 – 239	5,829	8,468	3,097	2,437	1,454	787	1,348	1,217	490	1,634	1,146	379	428	415
180 – 209	298	217	72	118	44	46	63	43	22	74	46	24	19	20
150 – 179	43	58	41	32	25	12	13	7	17	13	11	5	10	1

Table 10.A.10: Observed Score Distributions of CSTs across 2003, 2004, and 2005 for Science (Integrated Science 1, 2, 3, and 4)

Observed Score Distributions	Integrated Science 1			Integrated Science 2			Integrated Science 3			Integrated Science 4		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
570 – 600	0	0	0	0	0	0	0	0	0	0	0	0
540 – 569	0	0	0	0	0	0	0	0	0	0	0	0
510 – 539	0	1	2	0	1	0	0	0	0	0	0	0
480 – 509	0	4	3	0	1	0	4	0	2	0	0	0
450 – 479	9	16	22	4	14	5	10	3	0	2	0	1
420 – 449	31	47	97	38	52	20	23	12	1	5	2	9
390 – 419	332	425	665	270	257	91	133	45	20	28	5	51
360 – 389	1,727	2,602	3,762	997	1,031	491	298	207	125	66	68	117
330 – 359	7,452	9,986	13,916	3,294	2,979	2,094	879	663	398	204	217	215
300 – 329	18,481	26,543	33,923	6,926	6,934	6,651	2,959	1,966	984	340	483	252
270 – 299	21,017	38,813	40,540	8,906	8,124	7,795	4,683	2,367	1,435	484	506	216
240 – 269	11,376	20,182	15,164	4,557	4,627	3,173	1,233	564	410	320	275	160
210 – 239	675	2,123	2,493	543	422	232	90	22	22	43	14	9
180 – 209	42	109	127	9	16	7	3	3	1	5	6	1
150 – 179	4	10	10	2	3	4	2	0	0	1	0	0

Appendix 10.B

Table 10.B.1: Average Proportion Correct of CSTs across 2003, 2004, and 2005

Subject	CST	Average p-value		
		2003	2004	2005
English-Language Arts	2	0.59	0.59	0.62
	3	0.61	0.60	0.61
	4	0.56	0.57	0.59
	5	0.53	0.59	0.60
	6	0.56	0.57	0.59
	7	0.56	0.57	0.59
	8	0.55	0.56	0.57
	9	0.55	0.55	0.58
	10	0.54	0.58	0.60
	11	0.54	0.57	0.58
History-Social Science	8	0.48	0.47	0.48
	10	0.48	0.48	0.50
	11	0.48	0.49	0.50
Math	2	0.74	0.71	0.73
	3	0.68	0.64	0.71
	4	0.68	0.63	0.70
	5	0.56	0.56	0.61
	6	0.56	0.53	0.60
	7	0.52	0.53	0.55
	General Math	0.50	0.47	0.47
	Algebra I	0.50	0.48	0.49
	Geometry	0.58	0.53	0.65
	Algebra II	0.60	0.54	0.56
	High School Math	0.71	0.64	0.66
	Integrated Math 1	0.34	0.35	0.39
	Integrated Math 2	0.43	0.39	0.46
	Integrated Math 3	0.45	0.47	0.51
Science	Grade 5 Science	N/A	0.47	0.50
	Biology	0.56	0.52	0.52
	Chemistry	0.56	0.51	0.52
	Earth Science	0.46	0.47	0.48
	Physics	0.52	0.52	0.52
	Integrated Science 1	0.41	0.39	0.40
	Integrated Science 2	0.43	0.40	0.40
	Integrated Science 3	0.36	0.37	0.37
	Integrated Science 4	0.41	0.43	0.49

Table 10.B.2: Overall IRT b-values for Operational Test Items across 2003, 2004, and 2005

Subject	CST	Mean IRT b-value		
		2003	2004	2005
English-Language Arts	2	-0.10	-0.15	-0.20
	3	-0.35	-0.34	-0.35
	4	0.09	-0.01	0.04
	5	0.07	-0.16	-0.20
	6	-0.04	-0.05	-0.13
	7	0.17	0.16	0.19
	8	-0.11	-0.14	-0.10
	9	-0.02	-0.04	-0.04
	10	-0.05	-0.21	-0.33
	11	-0.09	-0.23	-0.22
History-Social Science	8	0.18	0.18	0.23
	10	0.13	0.15	0.09
	11	0.18	0.09	0.08
Math	2	-1.00	-0.85	-0.89
	3	-0.76	-0.35	-0.66
	4	-0.70	-0.40	-0.68
	5	-0.24	-0.14	-0.25
	6	-0.26	-0.05	-0.34
	7	-0.03	-0.04	-0.03
	General Math	0.04	0.17	0.22
	Algebra I	0.07	0.08	0.06
	Geometry	-0.42	-0.21	-0.80
	Algebra II	-0.52	-0.33	-0.45
	High School Math	-1.09	-0.69	-0.74
	Integrated Math 1	N/A	0.25	0.00
	Integrated Math 2	N/A	0.08	-0.17
	Integrated Math 3	N/A	-0.06	-0.21
Science	Grade 5 Science	N/A	-0.19	-0.24
	Biology	-0.34	-0.22	-0.16
	Chemistry	-0.25	-0.11	-0.14
	Earth Science	0.22	0.17	0.19
	Physics	-0.17	-0.21	-0.20
	Integrated Science 1	N/A	N/A	N/A
	Integrated Science 2	N/A	N/A	N/A
	Integrated Science 3	N/A	N/A	N/A
	Integrated Science 4	N/A	N/A	N/A

Table 10.B.3: Average Point R-Biserial Correlation of CSTs across 2003, 2004, and 2005

Subject	CST	Average Point R-Biserial		
		2003	2004	2005
ELA	**2**	0.43	0.45	0.46
	3	0.44	0.43	0.43
	4	0.41	0.42	0.43
	5	0.38	0.42	0.43
	6	0.40	0.40	0.42
	7	0.38	0.41	0.41
	8	0.37	0.38	0.40
	9	0.40	0.40	0.43
	10	0.41	0.43	0.44
	11	0.41	0.41	0.43
History-Social Science	**8**	0.32	0.36	0.37
	10	0.38	0.39	0.39
	11	0.37	0.38	0.41
Math	**2**	0.42	0.43	0.44
	3	0.43	0.45	0.44
	4	0.47	0.46	0.47
	5	0.41	0.42	0.46
	6	0.41	0.42	0.44
	7	0.39	0.41	0.42
	General Math	0.36	0.35	0.36
	Algebra I	0.38	0.38	0.38
	Geometry	0.40	0.38	0.41
	Algebra II	0.39	0.37	0.37
	High School Math	0.45	0.41	0.41
	Integrated Math 1	0.26	0.27	0.30
	Integrated Math 2	0.32	0.31	0.34
	Integrated Math 3	0.35	0.34	0.36
Science	**Grade 5 Science**	N/A	0.33	0.36
	Biology	0.40	0.38	0.38
	Chemistry	0.38	0.38	0.38
	Earth Science	0.34	0.37	0.37
	Physics	0.40	0.41	0.40
	Integrated Science 1	0.28	0.29	0.29
	Integrated Science 2	0.31	0.31	0.26
	Integrated Science 3	0.27	0.27	0.27
	Integrated Science 4	0.32	0.29	0.38

Table 10.B.4: Reliabilities and Standard Error of Measurement (SEM) of CSTs across 2003, 2004, and 2005

Subject	CST	Reliability			SEM		
		2003	2004	2005	2003	2004	2005
English-Language Arts	2	0.93	0.94	0.94	3.5	3.3	3.4
	3	0.93	0.93	0.93	3.5	3.5	3.5
	4	0.93	0.94	0.94	3.9	3.7	3.7
	5	0.92	0.94	0.94	3.9	3.6	3.6
	6	0.93	0.93	0.94	3.7	3.8	3.6
	7	0.92	0.93	0.93	3.9	3.8	3.9
	8	0.91	0.92	0.93	4.0	3.8	3.7
	9	0.93	0.93	0.94	3.8	3.8	3.7
	10	0.93	0.94	0.94	4.0	3.8	3.9
	11	0.93	0.93	0.94	3.9	3.9	3.8
History-Social Science	8	0.88	0.91	0.91	4.0	3.5	4.0
	10	0.90	0.91	0.91	3.5	3.3	3.4
	11	0.90	0.90	0.91	3.5	3.5	3.6
Math	2	0.92	0.93	0.93	3.2	3.2	3.2
	3	0.93	0.94	0.93	3.3	3.3	3.2
	4	0.94	0.94	0.94	3.3	3.4	3.3
	5	0.92	0.93	0.94	3.5	3.4	3.4
	6	0.92	0.93	0.94	3.6	3.5	3.3
	7	0.91	0.92	0.93	3.7	3.6	3.5
	General Math	0.90	0.89	0.90	3.6	3.6	3.6
	Algebra I	0.88	0.87	0.87	3.6	3.6	3.7
	Geometry	0.91	0.90	0.92	3.7	3.6	3.7
	Algebra II	0.91	0.90	0.91	3.7	3.6	3.5
	High School Math	0.95	0.93	0.92	3.2	3.3	3.3
	Integrated Math 1	0.80	0.81	0.84	3.6	3.6	3.6
	Integrated Math 2	0.87	0.85	0.88	3.6	3.6	3.7
	Integrated Math 3	0.89	0.88	0.89	3.7	3.6	3.7
Science	Grade 5 Science	N/A	0.86	0.88	N/A	3.6	3.6
	Biology	0.91	0.90	0.90	3.4	3.5	3.6
	Chemistry	0.90	0.90	0.90	3.5	3.6	3.5
	Earth Science	0.88	0.89	0.90	3.7	3.6	3.5
	Physics	0.91	0.92	0.91	3.5	3.4	3.6
	Integrated Science 1	0.81	0.82	0.82	3.6	3.6	3.6
	Integrated Science 2	0.85	0.84	0.78	3.5	3.6	3.6
	Integrated Science 3	0.80	0.79	0.79	3.5	3.6	3.6
	Integrated Science 4	0.85	0.83	0.90	3.6	3.5	3.5

Glossary of Terms

ASSESSMENT

A systematic sample of behavior administered to allow inferences about an individual's knowledge, skill, ability, or other trait. Assessments can consist of multiple-choice test, essay test, portfolios, performance measures, structured interviews, etc. In most usages, "assessment" is synonymous with "test." Some authors use "assessment" to refer to broader evaluations than those provided by tests alone.

COEFFICIENT ALPHA

Coefficient alpha is a measure of internal consistency reliability in which items are not limited to scores of 0 and 1, like the KR20 coefficient. It is an estimate of average coefficient of reliability that would be obtained from all possible split-halves of a test. It constitutes an estimate of the lower bound of the reliability. A general formula for computing Coefficient alpha is:

$$\hat{\alpha} = \frac{k}{k-1}\left(1 - \frac{\sum \hat{\sigma}_i^2}{\hat{\sigma}_X^2}\right),$$

where k is the number of items on the test, $\hat{\sigma}_i^2$ is the variance of item i, and $\hat{\sigma}_X^2$ is the total test variance.

CONTENT STANDARDS

What the State want learners to know and be able to do. Content standards specify the content knowledge and skills that students at a given grade and/or for a given discipline.

CONSEQUENTIAL VALIDITY

The interpretations of scores as they relate to bias, fairness, and social consequences (Messick, 1995).

CONSTRUCT VALIDITY

All the theoretical and empirical evidence bearing on what an assessment is actually measuring, and on the qualities of the inferences made on the basis of the scores.

CONTENT VALIDITY

The aspect of construct validity that emphasizes evidence bearing on the appropriateness of the knowledge, skills, and abilities measured by an assessment. Are the important areas of the domain represented by appropriate numbers of items? Are important areas of the domain excluded? Is material foreign to the domain included?

DIFFERENTIAL ITEM FUNCTIONING (DIF)

An indication of a difference in item performance among comparable members of different groups. Generally, in measures of DIF, individuals in different groups are considered comparable if they receive the same total score on an assessment.

INTER-READER AGREEMENT

The extent to which raters agree in the scoring of observations or essays. This is usually expressed as a proportion.

INTER-READER CONSISTENCY

The degree to which the measure assessed by two or more readers/raters is in agreement when the same instrument is administered to the same person. It is a measure of *homogeneity* and is most frequently measured using the intraclass correlation as described below:

$ICC = r_I = (ms_{between} - ms_{within})/(ms_{between} + [k - 1]ms_{within})$

where

$ms_{between}$ is the mean-square estimate of between-subjects variance, ms_{within} is the mean-square estimate of within-subjects variance

k is the number of raters/ratings per essay. If the number of raters differs per essay, an average k is used based on the harmonic mean.

INTERNAL CONSISTENCY RELIABILITY ESTIMATE

The degree of homogeneity of items in a test, or the extent to which responses to the various components of the test correlate with one another or with a test score as a whole (Crocker and Algina, 1986). Two classes of methods are often used to obtain the internal consistency reliability estimate: split-half methods and methods based on item covariance.

KR-20 and KR-21

KR-20 and KR-21 are measures of internal consistency where dichotomously scored items are used . KR20 has a maximum value of 1.0 and a minimum value of 0. High KR-20 reliabilities mean that all items are highly correlated with one another and therefore measure the same true scores. The formula is:

$$KR_{20} = \frac{k}{k-1}\left(1 - \frac{\sum p_i q_i}{\hat{\sigma}_X^2}\right),$$

where k is the number of items in the test, $\hat{\sigma}_X^2$ is the total test variance, and $p_i q_i$ is the variance of item i.

KR-21 is a simplified estimate of KR-20 that requires knowledge only of the mean, variance, and number of items on the test. It assumes all items are equal in difficulty, and therefore underestimates KR-20. The formula is:

$$KR_{21} = \frac{k}{k-1}\left[1 - \frac{\hat{\propto}\left(k - \hat{\propto}\right)}{k\hat{\sigma}_X^2}\right],$$

Where $\hat{\propto}$ is the mean total score, $\hat{\sigma}_X^2$ is the total score variance, and k is the number of items on the test.

LIMITED ENGLISH PROFICIENCY (LEP)

Individuals who were not born in the United States or whose native language is a language other than English, or who come from environments where a language other than English is dominant, or who come from environments where a language other than English has had a significant impact on their level of English-language proficiency.

MODIFICATIONS

A change made to an assessment, its administration mode, its response mode, or to a testing site to accommodate a person with special needs that alters the assessment to the point where it is not comparable to the non-modified assessment.

PARALLEL FORMS

Versions of a test that are constructed in such a way so the content and the statistical characteristics are matched across versions. Parallel forms can be used independent of each other and are considered equivalent measures.

PERFORMANCE-STANDARDS

The competency level or level of achievement expected within a content area of an assessment. Generally, achievement is measured according to whether the student meets or exceeds the content standard (e.g., advanced, proficient, basic, below basic, or far below basic). State content standards generally provide the definition of how students must demonstrate their proficiency in the skills and knowledge of a subject area.

P-VALUE

The proportion of examinees responding correctly to an item. It is a measure of item difficulty. This statistic is sensitive to the ability of the group upon which the statistics is computed.

RASCH ITEM DIFFICULTY

The Rasch estimate is an item response theory measure of item difficulty . It is the trait level at which an individual has a 50 percent chance of passing the item. The Rasch item difficulty is often referred to as a b-value. Unlike the p-value, this statistics is not dependent on the group taking the item once the items have been placed on a common scale.

RELIABILITY

An indicator of the extent to which scores will be consistently ranked across different administrations, and/or administration of alternate forms of the assessment, and/or different scorers. Reliability is also defined as the ratio of true score variance to total score variance.

RELIABILITY COEFFICIENT

A single number that quantifies the reliability of the test. This coefficient can assume values from 0 (a lack of reliability) to 1.0 (perfect reliability).

STANDARD ERROR OF MEASUREMENT

In general terms, a statistic that indicates the variation expected in assessment scores due to random differences caused by such factors as luck in guessing a response, the particular set of items in the form administered to the test taker, or the leniency or rigor of a scorer. In more technical terms, the standard error of measurement is a statistic that indicates the standard deviation of the differences between observed scores and their corresponding true scores. It is also, theoretically, the standard deviation of scores for a person taking a large number of parallel forms of assessments, assuming no changes in the person's true score.

Standard error of measurement can be obtained by $\sigma_E = \sigma_X \sqrt{1 - \cdot_{XX'}}$, where $\cdot_{XX'}$ is the reliability coefficient.

TEST/RETEST RELIABILITY ESTIMATE

An estimate of reliability based on the correlation between scores on two administrations of the same form to the same group of people. Because the items remain unchanged, they are not counted as a source of error variance in the estimate of reliability.

TEST BLUEPRINT

A document that specifies the structure and content of a test. It provides general guidelines for the development of test content specifications for test construction.

TRUE SCORE

The hypothetical average score of a test taker calculated from an infinite number of administrations of alternate forms of the test, assuming no changes in learning, forgetting, or fatigue on the part of the test taker. It is the score that a test taker would obtain if the assessment were perfectly reliable (the standard error of measurement were zero).

VALIDITY

The extent to which inferences and actions made on the basis of a set of scores are appropriate and justified by evidence. Validity refers to how the scores are used rather than to the assessment itself.

References

Crocker, L. and Algina, J. *Introduction to Classical and Modern Test Theory.* New York: Holt, Rinehart and Winston Inc., 1986.

Messick, S. "Validation of Inferences Form Persons' Responses and Performances as Scientific Inquiry into Score Meaning," *American Psychologist*, Vol. 50 (1995), pp. 741–749.