2013 Revision of the Mathematics Framework

Report from the Instructional Quality Commission

September 2013
State Board of Education
2013 Revision of the Mathematics Framework

Presenters:

• Tom Adams, Director, Curriculum Frameworks and Instructional Resources Division
• Bill Honig, Chair, Instructional Quality Commission
• Ed D’Souza, Co-Chair, Mathematics Subject Matter Committee
• Julie Spykerman, Co-Chair, Mathematics Subject Matter Committee
2013 Revision of the Mathematics Framework

Today:
Hear an update on the revision of the Mathematics Framework

Next Step:
State Board of Education Action to adopt the revised Mathematics Framework in November 2013
This chart shows the major steps of the curriculum framework development process.

All meetings are open to the public.
Recent State Board of Education Actions

In January 2013, the State Board of Education:

• Modified California additions to the California Common Core State Standards for Mathematics and approved model courses in higher mathematics in two pathways

• Approved the Criteria for Evaluating Mathematics Instructional Materials for Kindergarten through Grade Eight
What Guided the Revision of the Mathematics Framework?

- National documents and research from the Common Core State Standards Initiative
- Achieve the Core and Progressions Documents
- State Board of Education Guidelines
- The Standards for Mathematical Practice
What Guided the Revision of the Mathematics Framework?

Three major shifts in mathematics:

• **Focus**: Place strong emphasis on the grade-level and course-level standards

• **Coherence**: Think across grades and link major topics in each grade

• **Rigor**: Pursue with equal intensity
  – Conceptual understanding
  – Procedural skills and fluency
  – Applications
Who contributed to the draft Mathematics Framework?

- Focus Group members—all educators in California K–12 public schools, four regional meetings
- MCFCC members—one-half teachers, including teachers with experience teaching English learners and students with disabilities, other educators, and two content experts with Ph.Ds. in mathematics
- IQC—one-half teachers
- Staff of the Curriculum Frameworks and Instructional Resources Division and mathematics expert Dr. Christopher Yakes
Who contributed to the draft *Mathematics Framework*?

- The field—provided comments on the draft framework
- County Offices of Education—held discussion forums on the 1st draft of the *Mathematics Framework*
- Common Core State Standards for Mathematics author and expert Jason Zimba
- WestEd’s California Comprehensive Center, Neal Finkelstein and Dona Meinders
- Staff of the California Department of Education’s Language Policy and Leadership Office, STEM Office, and Assessment Transition Office
Content of the *Mathematics Framework, K–5*

**Focus Coherence Rigor**

- A focus on understanding addition, subtraction, multiplication, and division (the four operations)
- Building from whole numbers to fractions in grades 3 to 5
- Expectations of fluency with whole numbers and fractions
Content of the *Mathematics Framework, 6–8*

**Focus**  
- A focus on ratio, proportion, rates, and percent and statistics and probability

**Coherence**  
- Extending operations with fractions to rational numbers

**Rigor**  
- Expectations of fluency with expressions and linear equations
Content of the *Mathematics Framework, Higher Mathematics*

- Traditional Pathway (Algebra I, Geometry, Algebra II)
- Integrated Pathway (Mathematics I, II, and III)
- Precalculus
- Statistics and Probability
- Calculus
- Advanced Placement Probability and Statistics
- Mathematical Modeling
Content of the *Mathematics Framework, Higher Mathematics*

**Focus  Coherence  Rigor**

- A focus on the mathematics that students need for success in college and careers
- Extending from algebraic concepts to calculus, trigonometry, and advanced statistics
- Expectation that students are college and career ready and able to utilize mathematics in their lives
Content of the *Mathematics Framework*, Other Chapters

- Universal Access
- Instructional Strategies
- Supporting High-Quality Common Core Mathematics Instruction
- Technology in the Teaching of Mathematics
- Assessment
- Instructional Materials (including the evaluation criteria for the mathematics adoption)
Where can I find the draft Mathematics Framework?

The draft Mathematics Framework is posted on the CDE Mathematics Curriculum Framework Web page at

http://www.cde.ca.gov/ci/ma/cf/
Questions on the *Mathematics Framework*?

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