

California Department of Education

Executive Office

SBE-003 (REV. 11/2017)

imb-cfird-jan20item01

# California State Board of Education January 2020 Agenda Item #03

## Subject

2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve*: Approval of Curriculum Framework and Evaluation Criteria Committee Guidelines and Appointment of Members to the Curriculum Framework and Evaluation Criteria Committee.

## Type of Action

Action, Information

## Summary of the Issue(s)

California *Education Code* (*EC*) Section 60200(b) requires the State Board of Education (SBE) to adopt a revised mathematics curriculum framework and evaluation criteria for the adoption of mathematics instructional materials aligned to the California Common Core State Standards for Mathematics (CA CCSSM). *EC* Section 60204 calls for the Instructional Quality Commission (IQC) to recommend curriculum frameworks to the SBE.

To implement the process described in *EC* 60200(b), the SBE approval of the IQC-recommended Curriculum Framework and Evaluation Criteria Committee Guidelines for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* (Attachment 1) and the IQC-recommended appointees to the Mathematics Curriculum Framework and Evaluation Criteria Committee (Mathematics CFCC) (Attachment 2) are required.

## Recommendation

The California Department of Education (CDE) recommends that the SBE take the following actions:

1. Approve the Curriculum Framework and Evaluation Criteria Committee Guidelines for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* as recommended by the IQC.
2. Appoint candidates for the Mathematics CFCC recommended by the IQC.

## Brief History of Key Issues

Assembly Bill 250 (Chapter 608, Statutes of 2011) called for the revision of the Mathematics Framework to align with the CA CCSSM. At its meeting on September 11, 2019, the SBE revised the Schedule of Significant Events for the 2021 revision of the *Mathematics Framework,* originally approved by the SBE on May 8, 2019. The submission period for the online application for the Mathematics CFCC was May 15 through August 15, 2019. The CDE received a total of 65 applications.

### Math Focus Group Report

Pursuant to the California Code of Regulations, Title 5, Section 9511(c), the CDE convened four focus groups in August 2019 to inform the content and guidance in the *Mathematics Framework.* The focus groups were located in San Diego, Santa Clara, Los Angeles, and Sacramento. The Sacramento focus group included videoconference participants from Humboldt and Shasta counties. The Santa Clara focus group included video conference participants from Fresno County. A total of 40 educators participated in the focus groups. In September and October, 102 students from four schools in Sacramento County participated in student focus groups. All comments were compiled and added to the focus group report, which is available online. Because the focus group report is provided as information, no SBE action on the report is required. The comments in the report informed the development of the Curriculum Framework and Evaluation Criteria Committee Guidelines for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve*.

**Guidelines for the Mathematics Framework Revision.**

On November 14, 2019, the IQC acted to recommend to the SBE Guidelines for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* (Attachment 1)*.* These guidelines were based upon *EC* requirements as well as oral and written comments from all of the focus groups. The Curriculum Frameworks and Instructional Resources Division (CFIRD) staff developed the initial draft of these guidelines, and the IQC modified and approved them. These guidelines, once approved by the SBE, will direct the work of the Mathematics CFCC.

### Appointment of Mathematics CFCC Members

The 90-day application window for the appointment of Mathematics CFCC members ended August 15, 2019. A total of 65 applications were received. This list was evaluated by CFIRD and SBE staff, and a list of applicants was submitted to the IQC.

On November 14, the IQC took action to recommend to the SBE 20 applicants for appointment to the Mathematics CFCC. *EC* Section 60200 requires that a majority of the CFCC consist of “current public school elementary or secondary classroom teachers who have a professional teaching credential that is valid under state law.”

Attachment 2 is an applicant summary list. The applications and resumes of the IQC-recommended applicants provide information regarding each applicant. Full applications and resumes are available in the Board Room.

### IQC Recommendations for the Mathematics CFCC

The IQC recommends the following:

1. The SBE approve the Curriculum Framework and Evaluation Criteria Committee Guidelines for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* as recommended by the IQC
2. The SBE appoint the applicants identified in the tables below to the Mathematics CFCC
3. The SBE appoint applicants 8 and 13 to serve as co-chairs of the Mathematics CFCC

**Teachers**

| **ID** | **Name** | **Employer** | **Position** |
| --- | --- | --- | --- |
| 6 | Lori Fury | West Placer Unified School District | Teacher on Special Assignment |
| 7 | Stephanie Holloway | Lake Elsinore Unified School District | Teacher |
| 8 | Lori Freiermuth | Sweetwater Unified School District | Teacher |
| 16 | Lindsay Gatfield | Saddleback Valley Unified School District | Teacher |
| 18 | Rebecca Pariso | Hueneme School District | Teacher |
| 25 | Aris Biegler | Los Angeles Unified School District | Teacher |
| 27 | Erin Fraser | Oceanside Unified School District | Teacher |
| 31 | Janet Hollister | Santa Barbara Unified School District | Instructional Support Teacher |
| 44 | Lisa Hoegerman | Apple Valley Unified School District | Instructional Coach |
| 49 | Andrew Huffaker | Whittier City School District | Instructional Coach |
| 51 | Lena Bradshaw | ABC Unified School District | Math Coach |

**Non-Teachers**

| **ID** | **Name** | **Employer** | **Position** |
| --- | --- | --- | --- |
| 11 | Theodore Sagun | UCLA Graduate School of Education | Associate Director |
| 13 | Dianne Willson | Elk Grove Unified School District | Program Specialist |
| 19 | Janny Kim | Los Angeles Unified School District | Math Coordinator |
| 26 | Steven Sampson | Kern County Office of Education | Math Coordinator |
| 30 | Nancy Butler-Wolf | University of California, Riverside | Lecturer |
| 32 | Ma Bernadette Salgarino | Santa Clara County Office of Education | Math Coordinator |
| 46 | Crystal Gomez | Fairfield Suisun School District | Consulting Teacher |
| 50 | Christina Rubalcava | Stanislaus County Office of Education | Math Coordinator |
| 55 | Rosa Serratore | Santa Monica Malibu Unified School | Math Coordinator |

## Summary of Previous State Board of Education Discussion and Action

**September 2019:** The SBE revised the Schedule of Significant Events for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve*

## Fiscal Analysis (as appropriate)

The cost to revise the *Mathematics Framework* is anticipated to be an estimated total of $350,000 over three budget years, 2019–20, 2020–21, and 2021–22. This cost includes the expenses of the focus groups, the CFCC (including the writers), and the meetings of the IQC and Mathematics Subject Matter Committee.

## Attachment(s)

Attachment 1: Draft Curriculum Framework and Evaluation Criteria Committee Guidelines for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* as recommended by the IQC (7 pages)

Attachment 2: Mathematics Curriculum Framework and Evaluation Criteria Committee Member Recommendations (4 pages)

# Draft Curriculum Framework and Evaluation Criteria Committee Guidelines for the 2021 Revision of the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve*

The guidelines approved by the State Board of Education (SBE) will direct the work of the Mathematics Curriculum Framework and Evaluation Criteria Committee (CFCC). The guidelines are based on statutory requirements, feedback from focus group meetings in August of 2019, student focus groups in September and October 2019, information provided by the Instructional Quality Commission and the State Board of Education, and public comment.

## In general, the revised *California Mathematics Framework for Public Schools, Kindergarten through Grade Twelve* (*Mathematics Framework*) shall

1. be aligned to the *California Common Core State Standards for Mathematics* (*CA CCSSM*) adopted by the SBE in 2010 and modified in 2013;
2. reflect the goal of achieving conceptual understanding, problem solving capacity, and procedural fluency in mathematics and demonstrate how these goals are consistent with the *CA CCSSM* assessment specifications utilizing the Standards for Mathematical Practice (SMPs);
3. articulate a clear and concise narrative that gives guidance and serves the needs of different users, including specialists, administrators, and curriculum leaders, and that reflects current, confirmed research in mathematics;
4. be written in language that is inclusive and supportive of multiple users, single or multiple subject credentialed teachers, support staff, administrators, and community leaders while not exceeding 900 pages;
5. include support from and references to current research to guide student-centered learning, including strategies to support a growth mindset in mathematics;
6. include an overview explaining how the standards are organized with an explanation of the coding system for identifying standards;
7. support a progression of learning from transitional kindergarten through grade twelve that ensures all students can achieve college and career readiness;
8. include compelling language that underscores the importance of the SMPs as well as the mathematics content standards;
9. provide guidance to help ensure equitable access to high-quality mathematics instruction for all elementary, middle, and high school students in California; and
10. include a table of contents and glossary of critical terms.

## Additionally, the revised *Mathematics Framework* shall be explicit in its provision of

1. learning progressions for each of the major domains of mathematics, describing the progression of a topic across a number of grade levels, informed both by research on children's cognitive development and by the logical structure of mathematics;
2. guidance about how to integrate use of the progressions with grade level standards and SMPs in meeting the needs of individuals and groups of students;
3. guidance ensuring access and equity, including research related to Universal Design for Learning;
4. examples of concrete, representational, and abstract models at each grade level;
5. specific guidance about developing domain-specific language and literacy skills;
6. information about the California Assessment of Student Performance and Progress (CAASPP) System assessment specifications, including achievement level descriptors, and support resources for the Smarter Balanced Assessment Consortium;
7. strategies related to those included in the California Department of Education resources, including the English Learner (EL) Roadmap, the *English Language Arts/English Language Development Framework,* the *California* *English Language Development Standards*, and *Educating for Global Competency*, to support guidance and usability of the *Mathematics Framework*; and
8. connections to resources and associations with resources that support and illustrate the guidance in the framework, including graphics, tables, snapshots and vignettes aligned to the guidance in the *Mathematics Framework*, and provide links to those resources when necessary.

## The CFCC shall develop chapters on the instructional cycles for grade-level mathematics. These chapters should support planning for instruction and assessment to ensure equitable access and opportunity for all students. They shall provide:

1. Guidance for planning instruction that includes
   1. explanations of the components of the content standards and SMPs and how they work together;
   2. examples of a variety of instructional and pedagogical approaches to mathematics teaching, including models and examples of what student learning looks like in different classroom settings, along with common misconceptions;
   3. guidelines to support the integration of the principles of Universal Design for Learning in first instruction for all students, including multiple means of representation (giving learners various ways of acquiring information and knowledge); multiple means of expression (providing learners alternatives for demonstrating what they know); and multiple means of engagement (tapping into learners' interests, offering appropriate challenges, and increasing motivation);
   4. resources that illustrate the connection between mathematics and other academic disciplines and the ways they support one another (e.g., Career Technical Education pathways, College and Career Readiness, computer science, Next Generation Science Standards, etc.);
   5. examples of differentiated strategies in mathematics classrooms with students that display a wide range of talents, skills, needs and abilities;
   6. guidance on how to support students with gaps in their mathematical knowledge;
   7. examples to support the use of mathematical modeling strategies; and
   8. guidance on culturally and linguistically relevant pedagogy that supports the instructional needs of each student.
2. Guidance for planning assessment, including
   1. discussion on approaches to measuring student learning, including strategies to support mastery-based approaches to assessment;
   2. the design and use of formative and summative assessments for continuous improvement, including a discussion of assessment strategies for the standards for mathematical practices;
   3. examples of multiple modes of assessment;
   4. how to use CAASPP summative assessment resources to support formative assessment goals and criteria;
   5. how to build and use product- and process-based rubrics; and
   6. references to and support from current research on effective assessment strategies for students who are recognized as ELs, at-promise, GATE-identified, and students with disabilities.

## The CFCC will address the issues related to mathematics instruction in grades eight and beyond, including

1. a clear statement that the *CA CCSSM* and SMPs in kindergarten through grade eight represent a pathway to higher mathematics and various coursework pathways;
2. guidance concerning acceleration, compaction, and enrichment in the high school mathematics courses of study;
3. a discussion about how the *CA CCSSM* in grades six through eight may inform the description of an accelerated path to higher mathematics beginning with Algebra I or Integrated Math I in grade nine;
4. guidance on student readiness for Algebra I or Integrated Math I including assessment of prerequisite knowledge and skills and appropriate placement (not to supersede the math placement law Senate Bill 359); and
5. suggested courses for both the traditional (Algebra, Geometry, Algebra 2) and integrated (Integrated Math I, II, III) high school mathematics pathways. The content of these courses shall be the same regardless of the grade level at which they are taught and applicable to and supportive of non-traditional instruction and learning.

## The CFCC shall include ample concepts and strategies throughout the grade-level chapters to support universal access and ensure access, equity, and inclusion for all students. The guidance will

1. outline current research to support planning and implementation of the principles of Universal Design for Learning as they apply to mathematics learning;
2. provide examples to support professional learning in topics for universal access in mathematics and include content for administrator- and teacher-led facilitation; and
3. include specific criteria to help educators identify and understand elements of high-quality mathematics instruction.

## The CFCC shall update and revise the chapter on instructional materials support. The revision shall

1. outline instructional materials’ alignment to the state-adopted mathematics standards at each grade level or span and current research in mathematics instruction;
2. stipulate the requirements for instructional materials consistency with the *Mathematics Framework* and *CA CCSSM*;
3. provide suggestions for instructional support for students who are ELs, at-promise, GATE-identified, and students with disabilities;
4. request that publishers of instructional materials provide assessment practices (e.g., entry-level, diagnostic, formative, interim, skill-based, and summative) at each grade level necessary to prepare all students for success in higher mathematics instruction;
5. include images that are age appropriate and depict the diversity of California students, and be affirmatively inclusive;
6. stipulate that the standards being taught must be clearly displayed in the teacher materials;
7. detail such provision for instructional materials and make suggestions of pacing or scope and sequence of instruction;
8. clarify suggestions for instructional materials and the provision for differentiated instruction in the teacher materials; and
9. outline ways instructional resources must show connections to state-adopted standards in other subjects in the teacher materials and provide examples of interdisciplinary instruction.

## The revised *Mathematics Framework* will satisfy statutory requirements.

The *Mathematics Framework* must reflect changes in statute affecting the mathematics curriculum and instructional materials that have been enacted since the last revision of the *Mathematics Framework*. This includes but is not limited to the following:

1. The California Mathematics Placement Act of 2015, *Education Code* (*EC*) Section 51224.7, states that the

…bill would require governing boards or bodies of local educational agencies, as defined, that serve pupils entering grade 9 and that have not adopted a fair, objective, and transparent mathematics placement policy as of January 1, 2016, to, before the beginning of the 2016–17 school year, develop and adopt, in a regularly scheduled public meeting, a fair, objective, and transparent mathematics placement policy for pupils entering grade 9 with specified elements, and would authorize governing boards or bodies of local educational agencies serving pupils who are transitioning between elementary and middle school or elementary and junior high school to develop and implement a mathematics placement policy for these pupils, as applicable, with these specified elements.

1. Algebra instruction statute, Assembly Bill 220, *EC* 51224.5, states this bill would require

…before a pupil receives a diploma of graduation from high school, that a pupil complete at least one course, or a combination of the two courses required for graduation, that meets or exceeds the rigor of Algebra I or Mathematics I, that is aligned to the content standards adopted by the state board. The bill would provide that a pupil who completes coursework that meets or exceeds the content standards for Algebra I adopted by the state board shall be deemed to have satisfied the graduation requirement. The bill would also exempt from the Algebra I or Mathematics I graduation requirement those pupils who, before enrollment in grade nine, completed a course in Algebra I or Mathematics I, or mathematics courses of equal rigor, that are aligned to the content standards adopted by the state board.

1. Environmental Education Principles, SB 720, *EC* 51227, which states that the

…Instructional Quality Commission shall ensure that the environmental principles and concepts developed pursuant to Section 71301 of the Public Resources Code are integrated into the content standards and curriculum frameworks in the subjects of English language arts, science, history-social science, health, and, to the extent practicable, mathematics whenever those standards and frameworks are revised.

1. Financial literacy, AB 166, *EC* 51284, which states

…concurrently with, but not prior to, the next revision of textbooks or curriculum frameworks in the social sciences, health, and mathematics curricula, the state board shall ensure that these academic areas integrate components of human growth, human development, and human contribution to society, across the life course, and also financial literacy, including, but not limited to, budgeting and managing credit, student loans, consumer debt, and identity theft security.

California Department of Education, November 2019.

# Mathematics Curriculum Framework and Evaluation Criteria Committee Member Recommendations

| ID | First Name | Last Name | Employer | Position | Selected Y or N |
| --- | --- | --- | --- | --- | --- |
| 1 | Joanna | Jimenez | Monsenor Oscar Romero Charter School | Teacher | N |
| 2 | Claudia | Diaz | Calexico Unified School District | Mathematics Teacher | N |
| 3 | Alexandra | Thomas | Walnut Creek School District | TK–8 Math Coach | N |
| 4 | Brian | Shay | San Dieguito Union High School District | Teacher | N |
| 5 | Carl | Veater | Tulare County Office of Education | Curriculum Specialist | N |
| **6** | **Lori** | **Fury** | **Western Placer Unified School District** | **Math Teacher on Special Assignment** | **Y** |
| **7** | **Stephanie** | **Holloway** | **Lake Elsinore Unified School District** | **Teacher** | **Y** |
| **8** | **Lori** | **Freiermuth** | **Sweetwater Union High School District** | **Teacher** | **Y** |
| 9 | Sunny | Chin-Look | Alhambra Unified | Math Instructional Specialist | N |
| 10 | Erica | Burnison | Solano County Office of Education | Program Manager, Math Curriculum and Instruction | N |
| **11** | **Theodore** | **Sagun** | **UCLA Graduate School of Education and Information Studies** | **Associate Director of Secondary Mathematics** | **Y** |
| 12 | Daniel | Cohen | Sweetwater Union High School District | Assistant Principal | N |
| **13** | **Dianne** | **Willson** | **Elk Grove Unified School District** | **Math Program Specialist, Grades 7–12** | **Y** |
| 14 | Greisy | Winicki Landman | Cal Poly Pomona University | Professor of mathematics | N |
| 15 | Patricia | Gorse | Pasadena Unified School District | Teacher/Math Department Chair | N |
| **16** | **Lindsey** | **Gatfield** | **Saddleback Valley Unified School District** | **Math Teacher on Special Assignment** | **Y** |
| 17 | Shelley | Kriegler | Center for Mathematics and Teaching | President | N |
| **18** | **Rebecca** | **Pariso** | **Hueneme School District** | **7th/8th Grade Math Teacher** | **Y** |
| **19** | **Janny** | **Kim** | **Los Angeles Unified School District** | **Elementary Math Coordinator** | **Y** |
| 20 | Edward | D'Souza | Rialto Unified School District | Lead Academic Agent | N |
| 21 | Ivonne | Torres | Montebello Unified School District | Math Teacher | N |
| 22 | Jordan | Smith | San Jacinto Unified School District | Instructional Leader, Math | N |
| 23 | Brittany | Mabe | Chula Vista Elementary School District | Coordinator, Instructional Services | N |
| 24 | Colleen | Westfall | Riverside Unified School District | Staff Development Specialist TK–6 Math | N |
| **25** | **Aris** | **Biegler** | **Los Angeles Unified School District** | **Math Teacher** | **Y** |
| **26** | **Steven** | **Sampson** | **Kern County Superintendent of Schools** | **Math Coordinator** | **Y** |
| **27** | **Erin** | **Fraser** | **Oceanside Unified School District; El Camino High School** | **Mathematics Teacher** | **Y** |
| 28 | Elin | Anderson | AIMS Center for Math and Science Education | PreK–12 Coordinator | N |
| 29 | Melinda | Shacklett | San Diego County Office of Education | Mathematics Coordinator | N |
| **30** | **Nancy** | **Butler Wolf** | **University of California, Riverside** | **Lecturer, Supervisor of Teacher Education** | **Y** |
| **31** | **Janet** | **Hollister** | **Santa Barbara Unified School District** | **Instructional Support Specialist** | **Y** |
| **32** | **Ma Bernadette** | **Salgarino** | **Santa Clara County Office of Education** | **Mathematics Coordinator** | **Y** |
| 33 | Susan | Kunze | Bishop Unified School District (Retired) | Retired Teacher | N |
| 34 | Frederick | Uy | California State University, Office of the Chancellor | Director | N |
| 35 | Niu | Gao | Public Policy Institute of California | Research Fellow | N |
| 36 | Jacqueline | Booker | Los Angeles County Office of Education | Senior Program Specialist | N |
| 37 | Helen | Chan | UCLA Curtis Center for Mathematics and Teaching | Director of Professional Development | N |
| 38 | Anne Marie | Almaraz | Sweetwater Union High School District | Teacher of Mathematics | N |
| 39 | Linda | Saeta | Claremont Unified School District | Mathematics Teacher | N |
| 40 | Shauna | Messinger | Simi Valley Unified School District | Math Teacher on Special Assignment TK–12 | N |
| 42 | Jaira | Figueroa Avila | Pajaro Valley Unified School District | Curriculum Coach, Secondary Mathematics | N |
| 43 | Stellina | Shepherd | Lynwood Unified School District | Teacher | N |
| **44** | **Isabella**  **(Lisa)** | **Hoegerman** | **Apple Valley Unified School District** | **Instructional Coach** | **Y** |
| 45 | Lynn | Cevallos | College Bridge | Founder and CEO | N |
| **46** | **Crystal** | **Gomez** | **Fairfield-Suisun School District** | **Consulting Teacher for Induction** | **Y** |
| 47 | Cassandra | Rollins | Hemet Unified School District | Teacher on Special Assignment, Secondary Site Math Coach | N |
| 48 | Nataly | Navarro | ABC Unified School District | Elementary Math Coach | N |
| **49** | **Andrew** | **Huffaker** | **Whittier City School District** | **Instructional Coach** | **Y** |
| **50** | **Christina** | **Rubalcava** | **Stanislaus County Office of Education** | **Math Project Coordinator** | **Y** |
| **51** | **Lena** | **Bradshaw** | **ABC Unified School District** | **Secondary Math/Science Coach** | **Y** |
| 52 | Maria | McClain | Antioch Unified School District | Math Teacher, Department Chair | N |
| 53 | Myra | Deister | Fullerton Joint Union High School District | Teacher | N |
| 54 | Jeffery | Pennewell | Livermore Valley Joint Unified School District | Dual Immersion Teacher | N |
| **55** | **Rosa** | **Serratore** | **Santa Monica-Malibu Unified School District** | **PreK–12 Mathematics Coordinator** | **Y** |
| 56 | Jane | Kim | Teacher Education Program, UCLA Graduate School of Education & Information Sciences | Faculty Lecturer | N |
| 57 | Catherine | Vittorio | San Bernardino County Superintendent of Schools | Math Curriculum Coordinator, PreK–8 | N |
| 58 | Bonnie | Maxwell | Hueneme Elementary School District | Teacher | N |
| 59 | Melanie | Doody | Glendale Unified School District | Secondary Math Teacher Specialist | N |
| 60 | Marcey | Winawer | Mountain View/Los Altos High School District | Instructional Support Teacher | N |
| 62 | Eva | Serrato | Rialto Unified School District | Academic Agent, Math/Science and College and Career Pathways | N |
| 63 | Patricia | Birk | Local District Northeast, Los Angeles Unified School District | Math/STEAM Specialist | N |
| 64 | Colleen | Hanners | Norwalk-La Mirada Unified School District | Teacher on Special Assignment | N |
| 65 | Jannelle | Olivier | Wm S Hart Union High School District | Assistant Principal | N |
| 66 | Shirley | Roath | Riverside County Office of Education | Administrator | N |
| 67 | Jaime | Park | UCLA Teacher Education Program | Faculty Advisor | N |
| 68 | Marco | Sanchez | Norwalk-La Mirada Unified School District | Assistant Director of Secondary Math | N |

Candidates 6, 7, 8, 16, 18, 25, 27, 31, 44, 49, and 51 meet Section 9511 of the *California Code of Regulations*, which states that a majority of the CFCC “shall be teachers who teach students in kindergarten or grades 1–12 and have a ‘professional’ credential.”

Numbering reflects a removal of duplicate applications 41 and 61.