

### High School Mathematics Materials Adoption Process

Date	Task	Lead	Status
August 26	Tentative timeline drafted	Math Team	Completed
October 4 – 15	Applications posted; publicity	Anna-Maria de la Fuente; Bernardo Ruiz; Patti Spencer	Completed
November 1	Publishers notified	Carol Sword	Completed
November 1 – 14	Applications reviewed; committee proposed	Anna-Maria de la Fuente, Art Mabbott	Completed
November 17	Consultant hired	Anna-Maria de la Fuente	Completed
November 25	IMC reviews committee and process	Carol Sword	Completed
November 26	Committee members and applicants notified	Anna-Maria de la Fuente	Completed
<b>December 4 (4 – 7 pm) @ Cleveland, Glbl. Comms.</b>	<b>Meeting #1: norms, goals, initial criteria</b>	Carolyn Gellerman; Anna-Maria de la Fuente	Completed
<b>December 11 (8 am – 3 pm) @ Cleveland, Glbl. Comms.</b>	<b>Meeting #2: development of screening tools; cultural relevance criteria</b>	Carolyn Gellerman, Ray Williams, Susie Martin, Art	Completed
<b>December 16 (4 – 7 pm) @ JS Center Lbry &amp; 2778</b>	<b>Meeting #3: Finish screening tools</b>	Anna-Maria de la Fuente, Susie Martin	Completed
January 6	IMC approves screening tools	Carol Sword	Completed
<b>January 8 (8 am – 3 pm) @ JS Center, Rm. 2765</b>	<b>Meeting #4: standards review; practice with screening tools; inter-rater reliability; begin initial screening</b>	Anna-Maria de la Fuente, Susie Martin, Art Mabbott	Completed
<b>January 8 – February 4</b>	<b>Initial screening (done individually by committee members)</b>		In progress
January 31 (or earlier)	State rankings of high school math materials	OSPI; State Board of Ed.	Initial completed; final due 3/31/09
<b>February 5 (8 am – 3 pm) @ JS Center, Rm. 2778</b>	<b>Meeting #5: CORE only Narrow to top 3 choices</b>	Susie Martin; Anna-Maria de la Fuente	Completed
<b>February 10 (8 am – 3 pm) @ JS Center, Rm. 2778</b>	<b>Meeting #5: ADVANCED only Narrow to top 3 choices</b>	Susie Martin; Anna-Maria de la Fuente	Completed
<b>February 9 – 27</b>	Public Review	Anna-Maria de la Fuente	Completed
<b>February 9 – March 12</b>	<b>Final screening (done individually by committee members)</b>	Committee	Completed
<b>March 5 (4 – 7 pm) @ JS Center, Rm. 2765</b>	<b>Meeting #6: Summary of public review, questions for panel</b>	Anna-Maria de la Fuente; Committee members	Completed
<b>March 12 (8 am – 3 pm) @ JS Center, Rm. 2778</b>	<b>Meeting #7: CORE only Panel and final recommendation for grades 9 – 11</b>	Susie Martin; Anna-Maria de la Fuente	
<b>March 17 (8 am – 3 pm) @ JS Center, Rm. 2772</b>	<b>Meeting #7: ADVANCED only Panel and final recommendations for Pre-Calculus, AP courses</b>	Susie Martin; Anna-Maria de la Fuente	
March 18 – 31	IMC approves final recommendations; forwards to Carla Santorno and Dr. Goodloe-Johnson	Carol Sword	
April 8	Board work session		
Mid-April	Board sub-committee (if needed by policy)		
April 22	Introduction of adoption selection		
May 6	Board vote		
May 7	Books ordered; assuming approval		

**Seattle Public Schools  
High School Mathematics Materials Adoption  
Summary of Criteria**

**Student Needs:**

- Accessible by and supports learning for all students, regardless of ability level, culture, learning style, or socio-economic level.
- Asks students to work on meaningful mathematics tasks.
- Aligned with Seattle Schools criteria for culturally responsive instructional materials
- Provides sufficient time to explore and investigate in-depth major mathematical ideas.
- Prepares students for future study in mathematics itself, and in the application of mathematics.
- Student materials are a good resource and reference for independent learning, such as clear explanations, examples, answers in back, user-friendly format, pictures that relate to problems, glossary and index.

**Content includes:**

- Mathematics content, vocabulary, processes, and cognitive demand emphasized in Washington state standards, or Advanced Placement/College Board standards.
- A balance of skill-building, conceptual understanding, and application.
- A good sequence across grade levels (order makes sense)
- Ample practice and review
- Mathematics as problem solving integrated into all levels
- Mathematical connections to the real world and other content areas.
- Activities that allow for in-depth exploration of mathematical concepts, progressing in difficulty
- Mathematics as reasoning integrated into all levels

**Pedagogy includes:**

- Active learning through the use of manipulatives, technology, meaningful investigations, use of visual models, and written assignments.
- Helps students learn through a variety of approaches.
- Balanced approach of problem solving and skill practice.
- Opportunities for communication and interaction in the math classroom.
- Opportunities for students to develop their own understanding of the mathematics.

**Assessments include:**

- Attention to conceptual understanding and higher-level thinking.
- Means for student self-assessment
- Frequent, easily administered, & easily evaluated monitoring of students' learning, integrated into the instructional program
- Frequent formal and informal assessments with multiple purposes
- Multiple question formats to assess conceptual understanding and computational fluency (multiple choice, open ended, short answer, extended response)

**Teacher Tools and Resources include:**

- Guides that are user-friendly with accessible lay-out and easy to understand instructions.
- Guidance in how to effectively present the lessons and engage all students in learning and mathematics.
- Guides that help teachers clarify and enhance their own understanding of mathematical concepts.
- Extensive and comprehensive support materials (e.g. test banks and practice banks).
- Resources for differentiating instruction to address the learning needs of all students including Special Education, English Language Learners and Advanced Learners.
- Solution key that shows steps for solving complex problems.
- Meaningful technology resources such as dynamic visual models, test banks for personal response systems, on-line texts and support materials, and self-scoring assessments.

## Washington State K – 12 Mathematics Standards Components Approved August, 2008

The *Washington State K–12 Mathematics Standards* are organized by grade level for grades K–8 and by course for grades 9–12, with each grade/course consisting of three elements: **Core Content, Additional Key Content, and Core Processes**. Each of these elements contains **Performance Expectations** and **Explanatory Comments and Examples** (see below for link to full document).

An effective mathematics program balances three important components of mathematics – conceptual understanding, procedural proficiency, and problem solving and mathematical processes.

### **Conceptual understanding (making sense of mathematics):**

Students who understand a concept can:

- identify examples and non-examples
- describe concepts with words, symbols, drawings, tables or models
- provide a definition of a concept
- use the concept in different ways

Expectations for conceptual understanding ask students to *demonstrate, describe, represent, connect, and justify*.

### **Procedural Proficiency (skills, facts, and procedures):**

Students who demonstrate procedural proficiency can:

- quickly recall basic facts (addition, multiplication, subtraction, and division)
- use standard algorithms – step-by-step mathematical procedures – to produce a correct solution or answer (might also include multiple algorithms)
- use generalized procedures (such as the steps involved in solving an algebraic equation)
- demonstrate *fluency* with procedures:
  - perform the procedure immediately and accurately
  - know when to use a particular procedure in a problem or situation
  - use the procedure as a tool that can be applied reflexively, and doesn't distract from the task at hand (procedure is stored in long-term memory)

### **Problem Solving and Mathematical Processes (reasoning and thinking to apply mathematical content):**

Students must be able to:

- reason
- solve problems
- communicate their understanding in effective ways
- solve increasingly complex problems from grade to grade
- use increasingly sophisticated language and symbols to communicate their understanding, from grade to grade

**Link to Washington State K – 12 Math Standards (full document):**

<http://www.k12.wa.us/CurriculumInstruct/Mathematics/pubdocs/K12FullMathFinalStandards.pdf>