

# Math Curriculum Evaluation Toolkit



California County Superintendents  
Educational Services Association



Curriculum & Instruction  
Steering Committee

## Introduction

The Common Core State Standards do not prescribe a singular approach to instructional resources, but require that student achievement be raised through the 21st Century skills of Creativity, Critical thinking, Communication and Collaboration.

**This document is meant to be a tool that guides and facilitates the process teams of educators will use to evaluate materials designed to teach, explain and demonstrate the Common Core.** This document is based on the information found in the 2013 Math Framework <http://www.cde.ca.gov/ci/ma/cf>. Noted in the 2013 Math Framework is following explanation:

... this document establishes criteria for evaluating instructional materials for the eight-year adoption cycle beginning with the primary adoption in 2013-14. These criteria serve as evaluation guidelines for the statewide adoption of mathematics instructional materials for kindergarten through grade eight, as called for in *Education Code* Section 60207.

The Common Core State Standards for Mathematics alone cannot raise achievement; this is done by a skilled educator with appropriate curriculum. The Resources tab at <http://www.corestandards.org> holds a document titled “K-8 Publisher Criteria for the Common Core State Standards for Mathematics. This document states that the implications of the standards for mathematics could be summarized briefly as follows:

**Focus:** Place strong emphasis where the standards focus  
**Coherence:** think across grades, and link to major topics in each grade  
**Rigor:** in major topics, pursue with equal intensity conceptual understanding, procedural skill and fluency, and applications

This document is designed to prompt the user to look for various areas of content within each set of publisher materials. Focus, Coherence and Rigor will be the foundation of each section. The Standards for Mathematical Practice will surround the work we do, while the Math Content Standards are the core.

## Focus, Coherence and Rigor definitions found at [www.corestandards.org](http://www.corestandards.org)

### **Focus**

Focus requires that we significantly narrow the scope of content in each grade so that students more deeply experience that which remains. Educators have come to see “narrowing” as a bad word—and it is a bad word, if it means cutting arts programs and language programs. But the number of math topics has swelled in this country. The Standards are telling us that math actually needs to lose a few pounds. The overwhelming focus of the Standards in early grades is arithmetic along with the components of measurement that support it. That includes the concepts underlying arithmetic, the skills of arithmetic computation, and the ability to apply arithmetic to solve problems and put arithmetic to engaging uses. Arithmetic in the K–5 standards is an important life skill, as well as a thinking subject and a rehearsal for algebra in the middle grades. Focus remains important through the middle and high school grades in order to prepare students for college and careers; surveys suggest that postsecondary instructors value greater mastery of prerequisite math topics over shallow exposure to a wide array of topics with dubious relevance to postsecondary work.

\*\*\*\*\*

### **Coherence**

Coherence is about making math make sense. Mathematics is not a list of disconnected tricks or mnemonics. It is an elegant subject in which powerful knowledge results from reasoning with a small number of principles such as place value and properties of operations. The standards define progressions of learning that leverage these principles as they build knowledge over the grades. When people talk about coherence, they often talk about making connections between topics. The most important connections are vertical: the links from one grade to the next that allow students to progress in their mathematical education. This is why it is critical to think across grades and examine the progressions in the standards to see how major content develops over time. Connections at a single grade level can be used to improve focus by tightly linking secondary topics to the major work of the grade. For example, in grade 3, bar graphs are not “just another topic to cover.” Rather, the standard about bar graphs asks students to use information presented in bar graphs to solve word problems using the four operations of arithmetic. Instead of allowing bar

graphs to distract from the focus on arithmetic, the standards are showing how bar graphs can be positioned in support of the major work of the grade. In this way coherence can support focus.

\*\*\*\*\*

### **Rigor**

To help students meet the expectations of the standards, educators will need to pursue, with equal intensity, three aspects of rigor in the major work of each grade: conceptual understanding, procedural skill and fluency, and applications. The word “understand” is used in the Standards to set explicit expectations for conceptual understanding, the word “fluently” is used to set explicit expectations for fluency, and the phrase “real-world problems” and the star symbol is used to set expectations and flag opportunities for applications and modeling (which is a Standard for Mathematical Practice as well as a content category in High School).

## Section ONE

### Alignment to the Common Core State Standards and Progressions

Consider the following quote to frame the work of examining instructional materials for alignment to the focus, coherence, and rigor called for in the Common Core Standard for Mathematics:

“Publishers and purchasers are equally responsible for a healthy materials market. Publishers cannot deliver focus to buyers who only ever complain about what has been left out, yet never complain about what has crept in. More generally, publishers cannot invest in quality if the market doesn’t demand it of them nor reward them for producing it.” (From the K-8 Publishers’ Criteria for the Common Core State Standards for Mathematics)

We have to be more knowledgeable purchasers of curriculum and materials by viewing possible curriculum through the lens of usability and accuracy. This section is designed to guide you to determine whether or not the program is worthy of close examination and to assess the degree to which it aligns with the Common Core approach to key mathematical content topics at relevant grade spans.

**This section makes frequent reference to the CCSS and the progressions documents, which can be found at: <http://commoncore.fcoe.org/subject/mathematics> .** The Common Core State Standards in mathematics were built on progressions: narrative documents 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. These documents were spliced together and then sliced into grade level standards. From that point on the work focused on refining and revising the grade level standards. The early drafts of the progressions documents no longer correspond to the current state of the standards.

Select a topic for which the Common Core approach differs significantly from the approach of the 1997 California Mathematics Standards, based on your study of the Common Core Standards and Progression documents.

## OVERVIEW OF THE TASKS (Section One)

1. Choose a grade span to analyze.
2. Using the Common Core State Standards and the Math Progressions, verify that curriculum contains lessons that align to the CCSS approach to key content topics at the appropriate grade level by doing the following:
  - a. Choose a topic to examine **(you will need to choose additional topics to engage in a complete analysis of the curriculum)**
  - b. Reference the appropriate Math Progression and the CCSS.
  - c. Compare to the curriculum

### **Please note the following:**

1. **Specific examples to look for are included in the document. Do not limit your analysis to the topics offered as possibilities.**
2. **This is not an easily quantifiable activity and participants need to justify and qualify their concerns.**

**Possible topics to examine in the K-2 span:**

1. Approach to counting/cardinality and addition in K-2
2. Lessons that lead to multiplication in third grade

**Topic 1. Approach to counting/cardinality and addition in K-2**

Regarding the CCSS and Math Progressions\*:

- A. Fluency develops as the culmination of students' progression through the following stages:  
Level 1. Direct modeling by counting all or taking away. (Page 36 of [CC and OA Progression.](#))  
Level 2. Counting on. (Page 37 of [CC and OA Progression.](#))  
Level 3. Convert to an easier equivalent problem. (Page 38 of [CC and OA Progression.](#))
- B. Emphasis of the standard algorithm above “strategies based on place value” is not appropriate until grade 4. (See 1.NBT.4, 2.OA.2, 2.NBT.5-7, 3.NBT.3, 4.NBT.4)
- C. An appropriate variety of addition and subtraction situations are provided. See page 9 of [CC and OA Progression.](#)

Examining Kindergarten :

- Students learn the count sequence and connect counting to cardinality (K.CC.4).
- Students understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
- Students develop fluency in adding and subtracting single-digit numbers within 5. (See page 18 of [CC and OA Progression.](#))

Look for the following:

- A. The textbook provides daily routines that help students develop their proficiency with both perceptual and conceptual subitizing (being able to “see” the quantity of a set without having to count) as a foundation for single-digit fluency. For example, students should have plentiful opportunities to develop the ability to recognize the cardinality of a collection of 9 objects arranged in various ways (i.e. 7 and 2, 4 and 5, etc.). See page 4 of [CC and OA Progression.](#)
- B. Addition and subtraction concepts develop through plentiful opportunities for direct modeling and counting all, then counting on. (See pages 36-37 of [CC and OA Progression.](#))
- C. The textbook provides word problems representing an appropriate variety of addition and subtraction situations, taken from the following types: Add To with

Result Unknown; Take From with Result Unknown; and put Together/Take Apart with Total Unknown and Both Addends Unknown. (See pages 9-10 of [CC and OA Progression](#).)

\*An explanation of the Math Progressions can be found on page 4



### Examining grade 1

- Students develop fluency in adding and subtracting single-digit numbers within 10. (See page 18 of CC and OA Progression.)
- Students use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties to solve addition and subtraction problems within 20. They develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10 (1st Grade Critical Areas #1-2)

### Look for the following:

- A. The textbook provides explicit support for Level 2 and Level 3 strategies for addition and subtraction problems within 20. (See pages 14-17 of CC and OA Progression.)
- B. The textbook provides an appropriate variety of addition and subtraction situations. (See page 9 and pages 12-14 of CC and OA Progression.)

Note your findings here: What was aligned?

What was not aligned?

Will this curriculum require supplemental materials?

## Topic 2. Lessons that lead to multiplication in third grade

Regarding the CCSS and Math Progressions:

A program aligned to the Common Core makes no explicit introduction of multiplication in the K-2 grade span, as there is no mention of multiplication in the K-2 Common Core Standards for mathematics. Rather, there should be lessons that engage students with addition in ways that provide a conceptual foundation for multiplication: skip counting (2.NBT.2), arrays (2.OA.4) and repeated addition (2.OA.4).

### Examining grade 2

- Students develop fluency in adding and subtracting single-digit numbers within 20. (See page 18 of CC and OA Progression.)
- Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. (2nd Grade Critical Area #2)
- Students engage with addition in ways that prepare them for multiplication. Examples should include skip counting (2.NBT.2), arrays (2.OA.4) and repeated addition (2.OA.4). Multiplication itself should not be introduced until 3rd grade.

### Look for the following:

- A. The textbook provides “representations such as manipulative materials, math drawings and layered three-digit place value cards [that] afford connections between written three-digit numbers and hundreds, tens, and ones.” (See page 8 of NBT Progression)
- B. The textbook provides explicit opportunities to further develop students’ flexible use of Level 3 composition and decomposition and Level 2 counting-on strategies.
- C. The textbook provides an appropriate variety of situational problems of all three types which involve addition and subtraction within 100, and two-step situational problems of all three types. (See pages 9 and 18 of CC and OA Progression.)
- D. The textbook provides addition lessons for skip counting (2.NBT.2), arrays (2.OA.4) and repeated addition (2.OA.4).
- E. The textbook DOES NOT provide too-early introduction to multiplication. Multiplication should not be introduced until 3rd grade.

Note your findings here:

What was aligned?

What was not aligned?

Will this curriculum require supplemental materials?

### **Possible topics to examine in the 3-5 span:**

1. Approach to multiplication
2. Approach to fractions

### **Topic 1. Approach to multiplication in 3-5**

Regarding the CCSS and Math Progressions:

- A. A program aligned to work with multiplication begins formal instruction at grade 3 (3.NF.1-4) B. Emphasis on reasoning ([NBT Progression](#))

There is no mention of multiplication in the K-2 Common Core Standards for mathematics, except for addition “with equal groups to gain foundations for multiplication” (2nd Grade, Operations and Algebraic Thinking, cluster heading C) . In third grade we see the beginning of multiplication in 3.OA.1: “Interpret products of whole numbers...”

The third grade Measurement and Data domain relates to multiplication in 3.MD.7: “relate area to the operations of multiplication and addition.” These concept-based standards address multiplication in the form of the area model and tiling for students to “understand concepts of area and relate area to multiplication and to addition” (OA Progression grades K-5).

#### Examining the grade 3:

- Students develop an understanding of the meanings for multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays and area models.
- Students begin instruction on multiplication in 3rd grade, reserving K-2 for pre-multiplication concepts and skills (i.e. addition work that lays the foundation for multiplication).

#### Look for the following:

- A. The textbook begins instruction on multiplication in 3rd grade with only one specific standard addressing multiplication\* (standards 3.OA.1, leads to 3.OA.5). This develops relational thinking prior to an emphasis on memorization of multiplication facts.
- B. The textbook asks students to describe a context in which a total number of objects can be expressed as, say  $5 \times 7$
- C. Students are asked to use drawings and equations with a symbol for the unknown number to represent the problem.

- D. Students apply properties of operations *as strategies to multiply (3.OA.5)*.
- E. The textbook asks students to fluently multiply within 100 *using strategies such as the relationship between multiplication and division*.

\*One standard mentions only multiplication, the rest mention multiplication and division.

#### Examining grade 4

- In grade 4, students build on the concepts learned in grade 3. Standards 4.OA.1, 2, 3 & 4 all involve students comparing multiplication problems, solving word problems and gaining familiarity with factors and multiples.

#### Look for the following:

- A. The textbook represents multiplication equations as comparison, e.g., “interpret  $35 = 5 \times 7$  as a statement that 35 is 5 times as many as 7 and 7 times as many as 5”
- B. The textbook asks students to find all factor pairs for a whole number in the range 1–100.
- C. Students are asked to recognize that a whole number is a multiple of each of its factors.
- D. Students are asked to determine whether a given whole number in the range 1–100 is prime or composite.

Note your findings here:

What was aligned?

What was not aligned?

Will this curriculum require supplemental materials?

## **Topic 2. Approach to fractions**

Regarding the CCSS and Math Progressions\*:

The Number and Operations - Fractions Progression begins by stating: “In Grades 1 and 2, students use fraction language to describe partitions of shapes into equal shares. In Grade 3 they start to develop the idea of a fraction more formally, building on the idea of partitioning a whole into equal parts. The whole can be a shape such as a circle or rectangle, a line segment, or anyone finite entity susceptible to subdivision and measurement. In Grade 4, this is extended to include wholes that are collections of objects (3-5NO-F Progression). Two important aspects of fractions provide opportunities for the mathematical practice of attending to precision are (1) specifying the whole and (2) explaining what is meant by “equal parts.”

### Examining grade 3:

- Use of number lines (Number and Operations- Fractions Progression)
- The textbook addresses fractions by using a number line diagram.
- The textbook compares two fractions with the same numerator or the same denominator by reasoning about their size.

### Look for the following:

- A. The textbook compares two fractions with the same numerator.(3.NF.3d / 4.NF.3)
- B. The textbook compares two fractions with the same denominator.(3.NF.3d / 4.NF.3)
- C. The textbook displays fractions as a number on a number line and represents fractions on a number line diagram (4.NF.1).
- D. The textbook DOES NOT add and subtract fractions with unlike denominators (this occurs in 5th grade 5.NF.1).

Note your findings here:  
What was aligned?

What was not aligned?

Will this curriculum require supplemental materials?

\*An explanation of the Math Progressions can be found on page 4



Examining grade 4:

- Number lines (Number and Operations- Fractions Progression)
- The textbook addresses fractions by using a number line diagram.
- The textbook compares two fractions with the same numerator or the same denominator by reasoning about their size.

Look for the following:

- A. Students are asked to compare two fractions with different numerators and different denominators using more than one method.
- B. The textbook decomposes a fraction into a sum of fractions with the same denominator in more than one way. (4.NF.3b)
- C. The textbook uses decimal notation for fractions with denominators 10 and 100 (4.NF.5-6)
- D. The textbook engages students with visual fraction models throughout (e.g. number lines). (See 4.NF.1, 2, 3b, 3d, 4a, 4b, 4c.)
- E. The textbook DOES NOT introduce division of fractions for grade 4, but waits until grade five.

Note your findings here:

What was aligned?

What was not aligned?

Will this curriculum require supplemental materials?

Examining grade 5:

- Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators.
- Students use the meaning of division to understand and explain why the procedures for multiplication and dividing fractions make sense.

Look for the following:

- A. Students are asked to add and subtract fractions with unlike denominators by replacing fractions with equivalent fractions.
- B. The textbook encourages students to use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.
- C. Students are asked to explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number.
- D. The textbook addresses division of unit fractions by whole numbers and whole numbers by unit fractions, but DOES NOT generalize division of fractions by fractions.

Note your findings here:

What was aligned?

What was not aligned?

Will this curriculum require supplemental materials?

**Possible topics to examine in the 6-8 span:**

- 1. Approach to number systems**
- 2. Approach to ratios and proportional relationships in 6-7 and functions in grade 8**

**Topic 1. Approach to number systems in 6-8**

Regarding the CCSS and Math Progressions\*:

“In Grades 6-8, students build on two important conceptions which have developed throughout K-5, in order to understand the rational numbers as a number system. The first is the representation of whole numbers and fractions as points on the number line, and the second is a firm understanding of the properties of operations on whole numbers and fractions.” (Number System Progression)

Look for the following in grade 6:

- The textbook uses visual fraction models and story contexts as well as equations to represent fraction division problems. (See page 5 of NS Progression and 6.NS.1)
- “Although negative integers might be commonly used as initial examples of negative numbers, the Standards do not introduce the integers separately from the entire system of rational numbers, and examples of negative fractions or decimals can be included from the beginning.” (See page 7 of NS [Progression](#))
- The grade 6 textbook DOES NOT add, subtract, multiply, or divide negative rational numbers. (7.NS.1)\*\*

Look for the following in grade 7:

- The textbook represents addition and subtraction of rational numbers on horizontal and / or vertical number line diagrams. (7.NS.1)
- The textbook justifies that a negative times a negative is positive because it otherwise would not satisfy the properties of operations. (See page 11 of NS Progression and 7.NS.2s)

Look for the following in grade 8:

- The textbook introduces irrational numbers and uses rational approximations to locate them approximately on the number line (8.NS.2)

\*An explanation of the Math Progressions can be found on page 4

\*\*For advanced learners (acceleration/compaction), it may make sense for concepts to be introduced at an earlier grade—especially if an LEA plans to offer Algebra I and Mathematics I before grade nine.

Note your findings here:

What was aligned?

Math 7 - The topics in the McGraw textbook were aligned with the standards in justifying rules for multiplying negative and positive integers.

What was not aligned?

No response

Will this curriculum require supplemental materials?

Definitely!

## **Topic 2. Approach to ratios and proportional relationships in 6-7 and functions in grade 8**

Regarding the CCSS and Math Progressions\*:

“The study of ratios and proportional relationships extends students’ work in measurement and in multiplication and division in the elementary grades. Ratios and proportional relationships are foundational for further study in mathematics and science and useful in everyday life” (Introduction to [RP Progression](#)). In grade 8, students build on experience with graphs and tables from grades 6 and 7 to “establish a routine of exploring functional relationships algebraically, graphically, numerically in tables, and through verbal descriptions.” (Page 5 of [Functions Progression](#))

Look for the following in grade 6:

- A. The textbook supports students using strategies for solving proportion problems, rather than setting up equations (See page 6 of [RP Progression](#))
- B. The textbook incorporates tape diagrams, double number lines, and ratio tables (6.RP.3, 3a)

Look for the following in grade 7:

- A. Students engage with tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships, which are critical foundations for students’ 8th grade work in the domain of Functions. (7.RP.2b)
- B. Students graph proportional relationships and interpret points “(x, y) on the graph in terms of the situation, with special attention to the points (0,0) and (1, r), where r is the unit rate. (7.RP.2d)”

Look for the following in grade 8:

- A. The textbook’s treatment of functions routinely engages students with four representations: algebraic, graphical, numerical in tables, and verbal descriptions. (8.F.2)

\*An explanation of the Math Progressions can be found on page 4

Note your findings here:

What was aligned?

Math 7 - McGraw does show a variation of graphing proportional and nonproportional relationships. They use tables and graphs to represent proportional relationships.

What was not aligned?

No response

Will this curriculum require supplemental materials?

The curriculum won't require supplemental materials. McGraw materials will be sufficient.

## Section TWO

### Alignment to the Mathematics Framework

To date, curricula have not always been balanced in their approach to these three aspects (focus, coherence and rigor). Some curricula stress fluency in computation, without acknowledging the role of conceptual understanding in attaining fluency. Some stress conceptual understanding, without acknowledging that fluency requires separate classroom work of a different nature. Some stress pure mathematics, without acknowledging that applications can be highly motivating for students, and moreover, that a mathematical education should prepare students for more than just their next mathematics course. At another extreme, some curricula focus on applications, without acknowledging that math doesn't teach itself.

The Standards set high expectations for all three components of rigor in the major work of each grade. Of course, that makes it necessary that we first follow through on the focus in the Standards—otherwise we are asking teachers and students to do more with less.

The Math Framework includes these three specific categories:

1. **Mathematics Content/Alignment with the Standards.** Content as specified in the *Common Core State Standards for Mathematics with California Additions*, including the Standards for Mathematical Practices, and sequence and organization of the mathematics program that provide structure for what students should learn at each grade level.
2. **Program Organization.** Instructional materials support instruction and learning of the standards and include such features as lists of the standards, chapter overviews, and glossaries.
3. **Assessment.** Strategies presented in the instructional materials for measuring what students know and are able to do.

The following categories are also specific categories in the framework. For our purposes they are woven throughout the entire document:

- **Universal Access.** Access to the standards-based curriculum for all students, including English learners, advanced learners, students below grade level in mathematical skills, and students with disabilities.
- **Instructional Strategies.** Information and materials that contain a clear road map when planning instruction.

This portion of the document takes the criteria from the Math Framework and adds in prompts and questions to guide your study of the focus, coherence and rigor of all math textbooks.

**Each section requires the user(s) to view the textbook material as a whole and not piece by piece—be sure to use the notes section to record your thoughts and evidence.**

**Note: A section for tabulating and comparing scores is found in Appendix A.**



## **Category 1: Mathematics Content/Alignment with the Standards**

Mathematics materials should support teaching to the *Common Core State Standards for Mathematics with California Additions*. Instructional materials suitable for adoption must satisfy the following criteria:

**Part 1: The mathematics content is correct, factually accurate, and written with precision. Mathematical terms are defined and used appropriately. Where the standards provide a definition, materials use that as their primary definition to develop student understanding.**

**Prompt:** Choose five lessons, each focused on a different standard or cluster of standards. Check for the information above. Verify with other members of your Textbook Adoption Team.

## Math 7

No					Yes	
1	2	3	4	5		<b>Lesson A: 1.1</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	X	—		Math terms are defined / appropriate
—	—	—	X	—		The textbook uses the given definitions to develop student understanding
—	—	—	X	—		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	X	—		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	X	—		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	X	—		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

None

No					Yes	
1	2	3	4	5		<b>Lesson B: 3.4</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	—	X		The textbook uses the given definitions to develop student understanding
—	—	—	—	X		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	—	X		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	—	X		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	X		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

None

No					Yes	
1	2	3	4	5		<b>Lesson C: 4.3</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	—	X		The textbook uses the given definitions to develop student understanding
—	—	—	—	X		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	—	X		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	—	X		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	X		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

None

No					Yes	
1	2	3	4	5		<b>Lesson D: 1.9</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	—	X		The textbook uses the given definitions to develop student understanding
—	—	—	—	X		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	—	X		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation- starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	—	X		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	X		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

None

No					Yes	
1	2	3	4	5		<b>Lesson E: 4.7</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	—	X		The textbook uses the given definitions to develop student understanding
—	—	—	—	X		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	—	X		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	—	X		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	—		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

The following sections were reviewed for the above responses: 1.1-1.5, 3.4, 4.3, 4.4, 4.6, 4.7

## Math 8

No					Yes	
1	2	3	4	5		<b>Lesson A: 1.1</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	X	—	—		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	X	—		The textbook uses the given definitions to develop student understanding
—	—	X	—	—		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	X	—	—	—		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	X	—	—		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	X	—	—		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

None

No					Yes	
1	2	3	4	5		<b>Lesson B: 3.4</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	X	—		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	X	—		The textbook uses the given definitions to develop student understanding
—	X	—	—	—		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	X	—		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	X	—	—	—		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	X		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

There will be a need for supplemental materials, for this lesson. The book doesn't offer enough rehearsal for students to learn it in long term memory.



No					Yes	
1	2	3	4	5		<b>Lesson C: 3.2</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	—	X		The textbook uses the given definitions to develop student understanding
—	—	—	—	X		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	—	X		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	—	X		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	X		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

I like the way that Slope is introduced in lesson

No					Yes	
1	2	3	4	5		<b>Lesson D: 2.1</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	—	X		The textbook uses the given definitions to develop student understanding
—	—	—	—	X		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	—	X		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation- starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	—	X		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	X		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

Lesson is good.

No					Yes	
1	2	3	4	5		<b>Lesson E: 2.2</b>
—	—	—	—	X		Content is correct—there are no mistakes in presentation of mathematical content.
—	—	—	—	X		Factual accuracy—All facts information in the textbook is accurate.
—	—	—	—	X		Written with precision
—	—	—	—	X		Math terms are defined / appropriate
—	—	—	—	X		The textbook uses the given definitions to develop student understanding
—	—	—	—	X		If the materials address topics outside of the CCSS, the publisher provides a mathematical and pedagogical justification. <b>(Focus)</b>
—	—	—	—	X		Materials amply feature high-quality conceptual problems and questions that can serve as fertile conversation-starters in a classroom if students are unable to answer them. <b>(Rigor and Balance)</b>
—	—	—	—	X		Manipulates and concrete representations such as diagrams that enhance conceptual understanding are closely connected to the written and symbolic methods to which they refer. <b>(Rigor and Balance)</b>
—	—	—	—	X		Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks. <b>(Rigor and Balance)</b>

Notes:

The following sections were reviewed for the above responses: 1.1, 1.2, 2.1, 2.2, 3.2, 3.4

**Part 2: The materials in basic instructional programs support comprehensive teaching of the *Common Core State Standards for Mathematics with California Additions* and include the standards for mathematical practice at each grade level or course.**

The standards for mathematical practice must be taught in the context of the content standards at each grade level or course. The principles of instruction must reflect current and confirmed research. The materials must support the design of the *Common Core State Standards for Mathematics with California Additions* and be aligned to the grade level content standards and standards for mathematical practice.

**Prompt:** Choose five lessons at random. Check for the information above. Verify with other members of your Textbook Adoption Team.

**Math 7**

		<b>Lesson A: 1.1</b>
Yes	No	Where are the SMP's located? In the teacher manual, they are at the side of each lesson.
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

None

		<b>Lesson B: 1.8</b>
Yes	No	Where are the SMP's located? First page of every section.
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

None

		<b>Lesson C: 1.2</b>
Yes	No	Where are the SMP's located? The mathematical practices are embedded in the lesson since each problem justifies each step by using math vocabulary.
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

The application of the SMP's is found later in the section.

		<b>Lesson D: 4.4</b>
Yes	No	Where are the SMP's located? Top right of first page in lesson
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

None

		<b>Lesson E: 1.3</b>
Yes	No	Where are the SMP's located? Front page in the text
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

The following sections were reviewed for the above responses: 1.1, 1.2, 2.1, 2.2, 3.2, 3.4

## Math 8

		<b>Lesson A: 1.2</b>
Yes	No	Where are the SMP's located? Mathematical Practices are located on page T21 in the teacher edition. They aren't found in the student edition. Although mathematical practices aren't present in the student edition, the book does target the mathematical practices by elaborating each example for the topics.
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

None

		<b>Lesson B: 3.4</b>
Yes	No	Where are the SMP's located? Beginning of lesson, just the numbers.
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

None

		<b>Lesson C: 3.2</b>
Yes	No	Where are the SMP's located?
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

None

		<b>Lesson D: 2.1</b>
Yes	No	Where are the SMP's located?
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

None

		<b>Lesson E: 2.2</b>
Yes	No	Where are the SMP's located?
X	___	Are there one or two SMP's at the forefront of the lesson?
X	___	Are they explicitly applied in the lesson outline?
X	___	Is the lesson 'true' to the SMP's listed?

Notes:

The following sections were reviewed for the above responses: 1.1, 1.2, 2.1, 2.2, 3.2, 3.4

## Overall (Math 7):

**Prompt:** Choose a chapter. Are all eight SMP's represented sufficiently throughout the chapter?

Looking at Chapter 6 on Equations and Inequalities only six of the eight Mathematical Practices are listed. Mathematical Practices 1, 2, 3, 4, 5 and 7 are used in the chapter; however, mathematical practices six and eight are missing. Individual lessons or activities cover anywhere from one to five different mathematical practices. Having five mathematical practices in a single lesson can imply that they are not covered in depth.

**Prompt:** Choose a 2nd chapter. Are all eight SMP's represented sufficiently throughout the chapter?

Looking at Chapter 7 on Geometric Figures all eight mathematical practices are covered. Similarly to the other chapter, multiple mathematical practices are used in a single lesson. When looking in depth, the publisher will cover the mathematical practice with anywhere from 1 to multiple questions.

## Overall(Math 8):

**Prompt:** Choose a chapter. Are all eight SMP's represented sufficiently throughout the chapter?

Chapter 7 on Congruence and Similarity covers six out of eight Mathematical Practices. The Mathematical Practices not covered are six and eight. The Mathematical Practices are identified in each lesson with a couple of example problems that address the standard.

**Prompt:** Choose a 2nd chapter. Are all eight SMP's represented sufficiently throughout the chapter?

Chapter 9 on Scatter Plots and Data Analysis covers six out of eight Mathematical Practices. Like in the previous chapter, the mathematical practices not covered are six and eight. Each individual lesson contains at least one standard of Mathematical Practice.



**Part 3: In any single grade in the kindergarten through grade eight sequences, students and teachers using the materials as designed spend the large majority of their time, approximately three-quarters, on the major work of each grade.**

The major work (major clusters) of each grade is identified in the Content Emphases by Cluster documents for K–8. Note that an important **subset** of the major work in grades K–8 is the progression that leads toward Algebra I and Mathematics I. Materials give especially careful treatment to these clusters and their interconnections. Digital or online materials that allow navigation or have no fixed pacing plan are explicitly designed to ensure that students’ time on task meets this criterion.

**Prompt:** Using the Content Emphases by Cluster (Appendix A)

[http://www.achievethecore.org/content/upload/Focus\\_in\\_Math\\_06.12.2013.pdf](http://www.achievethecore.org/content/upload/Focus_in_Math_06.12.2013.pdf) , choose two chapters (each a different topic or cluster and from different areas of the text) and find the following:

## Math 7

No					Yes	
1	2	3	4	5		<b>Chapter A: 1</b>
—	—	—	—	X		Does each grade level focus on the Major Standards for approximately 75%* of the year? <b>(Focus)**</b>
—	—	—	X	—		Are Additional and Supporting Clusters linked back to Major Clusters? <b>(Coherence)</b>
—	—	—	X	—		Are learning objectives based on Cluster Headings (standards are not meant to be taught in isolation)? <b>(Coherence)</b>
—	—	—	X	—		Materials in grades K–8 include an ample number of single-step and multi- step contextual problems that develop the mathematics of the grade, afford opportunities for practice, and engage students in problem solving. <b>(Rigor and Balance)</b>
—	—	—	X	—		Problems and activities are grade-level appropriate, with a sensible tradeoff between the sophistication of the problem and the difficulty or newness of the content knowledge the student is expected to gain. <b>(Rigor and Balance)</b>

Notes:

None

\*the CCSSO Publisher Criteria has a footnote that says between 65% and 85% in K-2. This note of 75% can be qualified by asking, “Is there sufficient focus on the major clusters for students to understand mathematical concepts, reach fluency expectations in the standards, and apply their knowledge and procedural skills and fluency to new situations?”

\*\*Given the particular clusters that are designated major in grade 7, the criterion for that grade is approximately two-thirds, rather than approximately three-fourth

No					Yes	
1	2	3	4	5	<b>Chapter B: 2</b>	
—	—	—	—	X	Does each grade level focus on the Major Standards for approximately 75%* of the year? <b>(Focus)**</b>	
—	—	—	X	—	Are Additional and Supporting Clusters linked back to Major Clusters? <b>(Coherence)</b>	
—	—	—	X	—	Are learning objectives based on Cluster Headings (standards are not meant to be taught in isolation)? <b>(Coherence)</b>	
—	—	X	—	—	Materials in grades K–8 include an ample number of single-step and multi- step contextual problems that develop the mathematics of the grade, afford opportunities for practice, and engage students in problem solving. <b>(Rigor and Balance)</b>	
—	—	X	—	—	Problems and activities are grade-level appropriate, with a sensible tradeoff between the sophistication of the problem and the difficulty or newness of the content knowledge the student is expected to gain. <b>(Rigor and Balance)</b>	

Notes:

The problem sets dive into more rigorous problems quickly.

## Math 8

No					Yes	
1	2	3	4	5		<b>Chapter A: 2</b>
—	—	—	—	X		Does each grade level focus on the Major Standards for approximately 75%* of the year? <b>(Focus)**</b>
—	X	—	—	—		Are Additional and Supporting Clusters linked back to Major Clusters? <b>(Coherence)</b>
—	X	—	—	—		Are learning objectives based on Cluster Headings (standards are not meant to be taught in isolation)? <b>(Coherence)</b>
—	X	—	—	—		Materials in grades K–8 include an ample number of single-step and multi- step contextual problems that develop the mathematics of the grade, afford opportunities for practice, and engage students in problem solving. <b>(Rigor and Balance)</b>
—	X	—	—	—		Problems and activities are grade-level appropriate, with a sensible tradeoff between the sophistication of the problem and the difficulty or newness of the content knowledge the student is expected to gain. <b>(Rigor and Balance)</b>

Notes:

None

\*the CCSSO Publisher Criteria has a footnote that says between 65% and 85% in K-2. This note of 75% can be qualified by asking, “Is there sufficient focus on the major clusters for students to understand mathematical concepts, reach fluency expectations in the standards, and apply their knowledge and procedural skills and fluency to new situations?”

\*\*Given the particular clusters that are designated major in grade 7, the criterion for that grade is approximately two-thirds, rather than approximately three-fourths

No					Yes	
1	2	3	4	5	<b>Chapter B:</b>	
—	—	—	—	X	Does each grade level focus on the Major Standards for approximately 75%* of the year? <b>(Focus)**</b>	
X	—	—	—	—	Are Additional and Supporting Clusters linked back to Major Clusters? <b>(Coherence)</b>	
X	—	—	—	—	Are learning objectives based on Cluster Headings (standards are not meant to be taught in isolation)? <b>(Coherence)</b>	
X	—	—	—	—	Materials in grades K–8 include an ample number of single-step and multi- step contextual problems that develop the mathematics of the grade, afford opportunities for practice, and engage students in problem solving. <b>(Rigor and Balance)</b>	
—	X	—	—	—	Problems and activities are grade-level appropriate, with a sensible tradeoff between the sophistication of the problem and the difficulty or newness of the content knowledge the student is expected to gain. <b>(Rigor and Balance)</b>	

Notes:

None

**Embedded in the previous sections (1-3), keep these in mind as you continue to review the textbooks:**

4. **Focus:** If the materials address topics outside of the *Common Core State Standards for Mathematics with California Additions*, the publisher will provide a mathematical and pedagogical justification.
5. **Focus and Coherence through Supporting Work: Supporting clusters do not detract from focus, but rather enhance focus and coherence simultaneously by engaging students in the major clusters of the grade.**
6. **Rigor and Balance: Materials and tools reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by all of the following:**
  - a. Developing students' conceptual understanding of key mathematical concepts, where called for in specific content standards or cluster headings, including connecting conceptual understanding to procedural skills.
  - b. Giving attention throughout the year to individual standards that set an expectation of fluency.
  - c. Allowing teachers and students using the materials as designed to spend sufficient time working with engaging applications, without losing focus on the major work of each grade.

## **Part 4: Consistent Progressions: Materials are consistent with the progressions in the Standards**

**Prompt:** Analyzing the textbook as a whole and using the Progressions Documents found a <http://commoncore.fcoe.org/subject/mathematics> find the following and rate from 1 (low) to 5 (high) :

### **Math 7**

#### **Chapter A: (Rate from 1-5)**

4 The Standard cluster is seen throughout the chapter/unit/theme (if it is an additional or supporting cluster, it references other major clusters).

4 Each chapter/unit offers depth of coverage (instead of moving on to standards for the following year(s))

4 The basic model for grade-to-grade progression involves students making tangible progress during each given grade, as opposed to substantially reviewing then marginally extending from previous grades.

3 Grade-level work begins during the first two weeks of instruction, rather than being deferred until later as previous years' content is reviewed. Remediation may be necessary, particularly during transition years, and resources for remediation may be provided, but review is clearly identified as such to the teacher.

4 Digital and online materials allow students and/or teachers to navigate content across grade levels promote the Standards' coherence by tracking the structure and progressions in the Standards. For example, such materials might link problems and concepts so that teachers and students can browse a progression.

4 Materials/ideas available for students who are "ready for more" are available. Experiences that can provide problems that take grade-level work in deeper directions, not just exposed to later grades' topics.

Relating grade level concepts explicitly to prior knowledge from earlier grades:

4 The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.

4 Grade-level problems in the materials often involve application of knowledge learned in earlier grades. Although students may well have learned this earlier content, they have not learned how it extends to new mathematical situations and applications.

4 Materials make extensions of prior knowledge explicit.

4 Cluster headings in the Standards sometimes signal key moments where reorganizing and extending previous knowledge is important in order to accommodate new knowledge (e.g., see the cluster headings that use the phrase “Apply and extend previous understanding”).

### **Chapter B: (Rate from 1-5)**

4 The Standard cluster is seen throughout the chapter/unit/theme (if it is an additional or supporting cluster, it references other major clusters).

4 Each chapter/unit offers depth of coverage (instead of moving on to standards for the following year(s))

4 The basic model for grade-to-grade progression involves students making tangible progress during each given grade, as opposed to substantially reviewing then marginally extending from previous grades.

4 Grade-level work begins during the first two weeks of instruction, rather than being deferred until later as previous years’ content is reviewed. Remediation may be necessary, particularly during transition years, and resources for remediation may be provided, but review is clearly identified as such to the teacher.

4 Digital and online materials allow students and/or teachers to navigate content across grade levels promote the Standards’ coherence by tracking the structure and progressions in the Standards. For example, such materials might link problems and concepts so that teachers and students can browse a progression.



4 Materials/ideas available for students who are “ready for more” are available. Experiences that can provide problems that take grade-level work in deeper directions, not just exposed to later grades’ topics.

Relating grade level concepts explicitly to prior knowledge from earlier grades:

4 The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.

3 Grade-level problems in the materials often involve application of knowledge learned in earlier grades. Although students may well have learned this earlier content, they have not learned how it extends to new mathematical situations and applications.

4 Materials make extensions of prior knowledge explicit.

4 Cluster headings in the Standards sometimes signal key moments where reorganizing and extending previous knowledge is important in order to accommodate new knowledge (e.g., see the cluster headings that use the phrase “Apply and extend previous understanding”).

## Math 8

### Chapter A: (Rate from 1-5)

2 The Standard cluster is seen throughout the chapter/unit/theme (if it is an additional or supporting cluster, it references other major clusters).

2 Each chapter/unit offers depth of coverage (instead of moving on to standards for the following year(s))

2 The basic model for grade-to-grade progression involves students making tangible progress during each given grade, as opposed to substantially reviewing then marginally extending from previous grades.

2 Grade-level work begins during the first two weeks of instruction, rather than being deferred until later as previous years' content is reviewed. Remediation may be necessary, particularly during transition years, and resources for remediation may be provided, but review is clearly identified as such to the teacher.

2 Digital and online materials allow students and/or teachers to navigate content across grade levels promote the Standards' coherence by tracking the structure and progressions in the Standards. For example, such materials might link problems and concepts so that teachers and students can browse a progression.

2 Materials/ideas available for students who are "ready for more" are available. Experiences that can provide problems that take grade-level work in deeper directions, not just exposed to later grades' topics.

Relating grade level concepts explicitly to prior knowledge from earlier grades:

2 The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.

2 Grade-level problems in the materials often involve application of knowledge learned in earlier grades. Although students may well have learned this earlier content, they have not learned how it extends to new mathematical situations and applications.

2 Materials make extensions of prior knowledge explicit.

2 Cluster headings in the Standards sometimes signal key moments where reorganizing and extending previous knowledge is important in order to accommodate new knowledge (e.g., see the cluster headings that use the phrase “Apply and extend previous understanding”).

**Chapter B:** (Rate from 1-5)

3 The Standard cluster is seen throughout the chapter/unit/theme (if it is an additional or supporting cluster, it references other major clusters).

2 Each chapter/unit offers depth of coverage (instead of moving on to standards for the following year(s))

3 The basic model for grade-to-grade progression involves students making tangible progress during each given grade, as opposed to substantially reviewing then marginally extending from previous grades.

3 Grade-level work begins during the first two weeks of instruction, rather than being deferred until later as previous years’ content is reviewed. Remediation may be necessary, particularly during transition years, and resources for remediation may be provided, but review is clearly identified as such to the teacher.

2 Digital and online materials allow students and/or teachers to navigate content across grade levels promote the Standards’ coherence by tracking the structure and progressions in the Standards. For example, such materials might link problems and concepts so that teachers and students can browse a progression.

2 Materials/ideas available for students who are “ready for more” are available. Experiences that can provide problems that take grade-level work in deeper directions, not just exposed to later grades’ topics.

Relating grade level concepts explicitly to prior knowledge from earlier grades:

2 The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.

2 Grade-level problems in the materials often involve application of knowledge learned in earlier grades. Although students may well have learned this earlier content, they have not learned how it extends to new mathematical situations and applications.

2 Materials make extensions of prior knowledge explicit.

2 Cluster headings in the Standards sometimes signal key moments where reorganizing and extending previous knowledge is important in order to accommodate new knowledge (e.g., see the cluster headings that use the phrase “Apply and extend previous understanding”).

**Part 5: Coherent Connections: Materials foster coherence through connections at a single grade, where appropriate and where required by the Standards, by (all of the following):**

**Prompt:** Choose two chapters from different areas of the textbook. Review the chapters by following these questions. Find the following (and mark with an “X” if found):

**Math 7**

**Chapter A:**

X Lessons include learning objectives that are visibly shaped by CCSSM cluster headings, with meaningful consequences for the associated problems and activities.

X Materials do not simply treat the Standards as a sum of individual content standards and individual practice standards.

X Lessons include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important. (Not everything in the standards is naturally well connected or needs to be connected)

**Chapter B:**

X Lessons include learning objectives that are visibly shaped by CCSSM cluster headings, with meaningful consequences for the associated problems and activities.

X Materials do not simply treat the Standards as a sum of individual content standards and individual practice standards.

X Lessons include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important. (Not everything in the standards is naturally well connected or needs to be connected)

Notes:

None

## Math 8

### Chapter A:

Lessons include learning objectives that are visibly shaped by CCSSM cluster headings, with meaningful consequences for the associated problems and activities.

Materials do not simply treat the Standards as a sum of individual content standards and individual practice standards.

Lessons include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important. (Not everything in the standards is naturally well connected or needs to be connected)

### Chapter B:

Lessons include learning objectives that are visibly shaped by CCSSM cluster headings, with meaningful consequences for the associated problems and activities.

Materials do not simply treat the Standards as a sum of individual content standards and individual practice standards.

Lessons include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important. (Not everything in the standards is naturally well connected or needs to be connected)

Notes:

None

**Prompt:** Review the textbook in general by following these questions:

- A. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of activities or problems that stimulate students to develop the habits of mind described in the practice standards:

Yes. The mathematical practice standards were shown in the textbook, including the student edition. For instance, the examples justified each step for students so that they can apply them on their own. Teachers used the same model during instruction. However, students get overstimulated by the business of the book and they have a hard time using the book as intended.

- B. Materials include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development:

Yes. The mathematical practice standards were shown in teacher edition. At the beginning of each lesson, the standards of mathematical practices are listed near the standards and each lesson contains a table showing which mathematical practice aligns with what example or problem set.

- C. Content and practice standards are not connected mechanistically or randomly, but instead support rigor, focus and coherence:

Yes. The books do have different levels of rigor for each topic and each section in the book contains information on types of questions or assignments to use depending on the student's current academic level.

- D. Students using the materials as designed build their perseverance in grade-level-appropriate ways by occasionally solving problems that require them to persevere to a solution beyond the point when they would like to give up:

Yes. The resources for each lesson focus on different problems from the chapter which allows students to persevere from one type of problem to another applying the skills that they acquired. Students reaction when introduced to the book caused them agitation and immediately started acting out in the lower classes. They disliked the way the information was presented.

- E. Lessons in the textbook reflect the verbs (DOK) written in the CCSS.

Yes. For example, problems in the textbook often asks students to explain their reasoning behind their answer which does reflect DOK verbs. Mc Graw provides a “Think Smart Smarter Balance” exercise section at the end of the lesson that provides students to practice the different level DOK problems for that topic like they are presented on the SBAC.

- F. Materials provide sufficient opportunities for students to reason mathematically in independent thinking and express reasoning through classroom discussion and written work:

Yes. Overall, the problems are straightforward and allow student to use their skills to solve them independently or collaboratively. However, the online resources are where students to reason mathematically in independent thinking and express reasoning through classroom discussion and written work more than the book itself.

- G. Reasoning is not confined to optional or avoidable sections of the materials but is inevitable when using the materials as designed. Materials do not approach reasoning as a generalized imperative, but instead create opportunities for students to reason *about* key mathematics detailed in the content standards for the grade.

Yes. I use certain materials from McGraw with my own instructional strategies often to check for understanding.

- H. Teachers and students using the materials as designed spend classroom time communicating reasoning (by constructing viable arguments and explanations and critiquing those of others’ concerning key grade-level mathematics).

Partially. For example, one teacher goes over assignments the following day and responses are explained by students so that they can use mathematical vocabulary.

- I. Materials provide examples of student explanations and arguments (e.g., fictitious student characters might be portrayed).

Yes, there are real world examples that incorporate fictitious student characters.



- J. Materials attend thoroughly to those places in the content standards that explicitly set expectations for multi-step problems; multi-step problems are not scarce in the materials.

Yes. Some of the lessons show different methods to solving a problem and provide justification of the process.

- K. Materials and tools address the development of mathematical and academic language associated with the standards. The language of argument, problem solving and mathematical explanations are taught rather than assumed.

Yes. Academic language is included in each lesson with explanation. The definitions are quite difficult to understand on their own, so supplementing the Textbook is important

## **End of Category 1: Universal Access and Instructional Strategies (from a Mathematics Content/Alignment with the Standards point of view)**

Two categories that should be threaded throughout the textbook material are **Universal Access and Instructional Strategies**. After reviewing the materials at this level, review and discuss your observations regarding these two areas:

**Universal Access** can be viewed through RtI, Differentiated Instruction, Multi-Tier Systems of Support (MTSS), Universal Design for Learning (UDL), and Equity and Access activities.

1. Universal Access was evident in the following ways:

There are several ways that McGraw Hill addresses the Universal Access. The book does show access to a variety of different learning styles. It does make connections to SBAC in including the using technology. It also provides in depth explanations for problems by using math vocabulary. Questions allow for students to answer problems by showing work and explaining their reasoning which allows for effective learning.

2. Universal Access is clearly applied in the following ways:

There are a lot of ways the text allows for differentiated instruction. The textbook provides level questions to ask during the lesson, leveled assignments, manipulatives and additional language supports to name a few. The book provides in depth explanations for problems by using math vocabulary. Questions allow for students to answer questions by showing work and explaining their reasoning which allows for effective learning.

3. Universal Access is supported by these TE pages and ancillary materials:

Yes. Teacher Edition book online provides justification for problems and teacher edition paperback provides SBAC claims and cluster explanations. There was an ancillary that provided remediation, but it was separate from the lessons being taught and outside the standards.

**Instructional Strategies** are not prescribed in the mathematics framework, but outlined for the benefit of building a teacher's repertoire. How were the following models offered throughout the text and are the instructional strategies appropriate for the learning objective(s)?:

1. 5E Model: (1) Engage, (2) Explore, (3) Explain, (d) Elaborate, and (e) Evaluate (Interactive Strategy)

The 5E model is effective in taking concepts in depth to that students can learn the concept effectively. The only issue is that some students may find it hard to navigate through the directions or understand them. McGraw Hill also provides self guided lesson where the teacher can model and have students work independently and collaboratively.

2. The Three-Phase Model (Explicit Strategy)

The book includes practice where students students can investigate, analyze, and reflect on what they're learning by working on real life examples that pertain to the topic.

3. Concept Attainment Model (Interactive Strategy)

NA

4. Cooperative Learning Model (Implicit Strategy)

Students can work collaboratively on inquiry labs to analyze and reflect on the concept that's being taught. Students can discover the fundamentals of a skill before teachers teach the skill to them which in turn makes it easier for students to understand. Students are encouraged throughout different performance tasks included to work together. Regular work does not encourage cooperation.

5. Cognitively Guided Instruction (Implicit Strategy)

Students can be asked to justify their answers by writing an explanation on their steps. They can also collaborate with others to explain verbally what their justification is.

6. Problem-Based Learning (Interactive Strategy)

It has students do error analysis. Each lesson includes problem solving section where students can apply the skills of the lesson to solve real world problems. The inquiry labs are also good for this.

Note: for samples and explanations

<http://www.cde.ca.gov/ci/ma/cf/documents/aug2013instructstrat.pdf>

## Category 2: Program Organization

This section requires the user(s) to view the textbook material as a whole and not piece by piece—be sure to use the notes section to record your thoughts and evidence.

1. A list of *Common Core State Standards for Mathematics with California Additions* is included in the teacher's guide together with page number citations or other references that demonstrate alignment with the content standards and standards for mathematical practice. All standards must be listed in their entirety with their cluster heading included.

Yes\_X\_      No\_\_

NOTES:

None

2. Chapters and/or units are structured around Standard Clusters—that is, Math Clusters are not broken apart into different chapters or units within the student and teacher edition.

Yes\_X\_      No\_\_

NOTES:

None

3. Intervention components, if included, are designed to support students' progress in mathematics and develop fluency. Intervention materials should provide targeted instruction on standards from previous grade levels and develop student learning of the standards for mathematical practice.

Yes\_X\_      No\_\_

NOTES:

Responses were mixed. See teacher explanations below:

The intervention component in McGraw does not fluidly go with the regular sections. They include resources for EL students but the handouts tend to be too "busy" with diagrams which can make it difficult for students to understand.

4. Acceleration components, if included, are designed to support students' progress beyond grade-level standards in mathematics. Acceleration materials should provide instruction targeted toward readiness for higher mathematics at the middle school level. **Note:** acceleration materials for students should provide problems that take grade-level work in deeper directions, not just exposed to later grades' topics.

Yes\_X\_      No\_\_

NOTES:

None

5. Teacher and student materials contain an overview of the chapters, clearly identify the mathematical concepts, and include tables of contents, indexes, and glossaries that contain important mathematical terms.

Yes\_X\_\_      No\_\_

NOTES:

None

6. Support materials are an integral part of the instructional program and are clearly aligned with the *Common Core State Standards for Mathematics with California Additions*.

Yes\_X\_      No\_\_

What types of support material are available:

There are several different types of support materials which can be found online or in workbooks. They include different variations of problems from the chapter for extra practice which can help students master the skills of the lesson.

There is an RTI section available as well. McGraw also provides as an interactive guide for note taking purposes, extra examples and extra practice pages. McGraw has also made the textbook interactive through icons that link the student to interactive pages to support them at all levels.

NOTES:

7. The grade-level content standards and the standards for mathematical practice are explicitly stated in both the teacher and the student editions.

Yes\_X\_\_      No\_\_

EXAMPLES:

Student editions have the content standards and mathematical practices listed in the front of the book as well as in the teacher edition.

Notes:

They are written at the top of the lessons.

## **End of Category 2: Universal Access and Instructional Strategies (from a Program organization point of view)**

After reviewing the book for program organization, add in observations regarding these two areas:

**Universal Access** can be viewed through RtI, Differentiated Instruction, Multi-Tier Systems of Support (MTSS), Universal Design for Learning (UDL), and Equity and Access activities.

1. Universal Access was evident in the following ways:

Yes, there is regular lessons and enrichment activities. Although the enrichment activities in McGraw seem vague. There are enrichment activities and activities for different levels of EL students.

2. Universal Access is clearly applied in the following ways:

McGraw is easily accessible by students through the workbooks and online app that they can access without wifi at home. The activities for EL students are too cluttered and may make it hard for them to understand.

3. Universal Access is supported by these TE pages and ancillary materials:

It provides support by giving examples and justifying each step.



**Instructional Strategies** are not prescribed in the mathematics framework, but outlined for the benefit of building a teacher's repertoire. How were the following models offered throughout the text and are the instructional strategies appropriate for the learning objective(s)?:

1. 5E Model: (1) Engage, (2) Explore, (3) Explain, (d) Elaborate, and (e) Evaluate (Interactive Strategy)

The 5E model is used to explain each problem as it does in the book. The text does have a lot of problems that ask students to explain and demonstrate HOW they got their answer.

2. The Three-Phase Model (Explicit Strategy)

There are lots of examples worked out for students. The launch of each lesson serves as front loading for the topic to be taught. During the lesson, great attention is paid to explaining and justifying each problem whether the students are practicing or applying the skills for the topic independently and/or cooperatively.

3. Concept Attainment Model (Interactive Strategy)

There is a lot of interactive pieces to the online component. They do help students conquer the learning objective. There are concepts in the book that have higher order thinking problems relating to the topic that can serve as enrichment activities or that can help students apply the concepts to real world problems.

4. Cooperative Learning Model (Implicit Strategy)

Yes. There isn't much of a cooperative learning model in the text.

5. Cognitively Guided Instruction (Implicit Strategy)

Each lesson embeds critical thinking questions that ask students to think about a problem differently or to get them to justify their answers so that they can master the skill that they're learning.

6. Problem-Based Learning (Interactive Strategy)

The text has a lot of problem based learning throughout each unit. There are different experiments and problems that require student involvement. Each lesson has a problem based resource that is based on the topic learned. It allows students to view a problem differently other than just numbers. They are able to read the problem and break it down in order to solve. They can also see how they're able to apply it in the real world.

Note: for samples and explanations,

<http://www.cde.ca.gov/ci/ma/cf/documents/aug2013instructstrat.pdf>

### Category 3: Assessment (General)

1. The textbook materials include a variety of assessment types needed for formative assessment. Some of these could include (but is not limited to) graphic organizers, student observation, student interviews, journals and learning logs, exit ticket activities, mathematics portfolios, self- and peer- evaluations, short tests and quizzes, and performance tasks.

Yes\_X\_      No\_\_

NOTES:

None

2. Summative assessments frequently come in the form of chapter or unit tests, weekly quizzes, end-of-term tests, or diagnostic tests.

Yes\_X\_      No\_\_

NOTES:

None

3. The assessments are designed to monitor student progress toward meeting the content and mathematical practice standards.

Yes\_X\_      No\_\_

NOTES:

None

4. The assessments are designed to assess all three aspects of rigor: conceptual understanding, procedural skill and fluency, and applications.

Yes\_X\_      No\_\_

NOTES:

None

5. The assessments are designed to provide summative evaluations of individual student achievement.

Yes\_X\_\_ No\_\_

NOTES:

None

6. The assessments are designed to provide multiple methods of assessing what students know and are able to do, such as selected response, constructed response, real world problems, performance tasks, and open-ended questions.

Yes\_X\_\_ No\_\_

NOTES:

None

7. The assessments are designed to assist the teacher in keeping parents and students informed about student progress.

Yes\_X\_\_ No\_\_

NOTES:

None

8. Assessments that ask for variety in what students produce, answers and solutions, arguments and explanations, diagrams, mathematical models. Note: all related back to the SMP's

Yes\_X\_\_ No\_\_

NOTES:

None

9. Assessment tools for grades six through eight help to determine student readiness for Algebra 1 and Mathematics 1.

Yes\_X\_      No\_\_

NOTES:

None

10. Acceleration or Compression aspects of mathematics programs include an initial assessment to identify areas of strengths and weaknesses, formative assessments to demonstrate student progress toward exceeding grade-level standards, and a summative assessment to determine student preparedness for above grade-level work.

Yes\_X\_      No\_\_

NOTES:

None

### **Category 3: Assessment (SBAC)**

The following is from the Content Specifications for the Summative assessment of the CCSS for Mathematics: The SMARTER Balanced Assessments are based on “Claims”. In terms of SBAC, Claims are the broad statements of the assessment system’s learning outcomes, each of which requires evidence that articulates the types of data/observations that will support interpretations of competence towards achievement of the claims. A first purpose of this document is to identify the critical and relevant claims that will identify the set of knowledge and skills that is important to measure for the task at hand (Pellegrino, Chudowsky, and Glaser, 2001), which in this case are the learning outcomes for the CCSS for mathematics.

This section requires the user(s) to view the textbook material as a whole and not piece by piece—be sure to use the notes section to record your thoughts and evidence.

#### **Overall Claim for Grades 3–8**

“Students can demonstrate progress toward college and career readiness in mathematics.”

#### **Overall Claim for Grade 11**

“Students can demonstrate college and career readiness in mathematics.”

#### **Claim #1 – Concepts & Procedures**

“Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.”

#### **Claim #2 – Problem Solving**

“Students can solve a range of complex, well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.”

#### **Claim #3 – Communicating Reasoning**

“Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.”

#### **Claim #4 – Modeling and Data Analysis**

“Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.”

\*Due to the variance in textbook layout and design, this section requires the user(s) to analyze text- books in a nonlinear manner. Use lessons, chapter assessments, unit assessments, assessment booklets etc. As you review through the lens of SBAC assessment.

**Claim #1: Does the material contain lessons that teach mathematical concepts?**

**Prompt:** Choose five lessons (each based on a different standard or cluster of standards). Check for the information above. Verify with other members of your Textbook Adoption Team (mark with an “X” if found):

**Note:** For this prompt, do not limit yourself to the Teacher Edition. Evaluate ancillary materials such as assessment workbooks, assessment masters, alternate assessments, etc.

**Math 7**

1	2	3	4	5	Lesson 1-5
—	—	—	—	<u>X</u>	Students are given the opportunity to explain and apply mathematical concepts.
—	—	—	—	<u>X</u>	The textbook contains lessons that are purely concept building that scaffold to lessons for computation.
—	—	—	<u>X</u>	—	Assessment questions are written with precision
—	—	—	—	<u>X</u>	Math terms are defined/appropriate
—	—	—	—	<u>X</u>	The concept is taught, not merely defined.

Notes:

Evaluation of 2-1, 2-2, 2-3, 2-4, 2-5

## Math 8

1	2	3	4	5	Lesson 1-5
—	—	<u>X</u>	—	—	Students are given the opportunity to explain and apply mathematical concepts.
—	—	<u>X</u>	—	—	The textbook contains lessons that are purely concept building that scaffold to lessons for computation.
—	—	<u>X</u>	—	—	Assessment questions are written with precision
—	—	<u>X</u>	—	—	Math terms are defined/appropriate
—	—	<u>X</u>	—	—	The concept is taught, not merely defined.

Notes:

1.4, 2.5, 3.5, 4.6, 5.5



**Claim #2: Does the textbook material contain problems that make productive use of knowledge and problems solving strategies?**

Start by reviewing the SBAC sample items found at <http://commoncore.fcoe.org/subject/mathematics>

**Prompt:** Choose five lessons (each based on a different standard or cluster of standards). Compare the assessment questions to the SBAC sample items. Check for the information above. Verify with other members of your Textbook Adoption Team.

**Note:** For this prompt, do not limit yourself to the Teacher Edition. Look in ancillary materials such as assessment workbooks, assessment masters, alternate assessments, etc.

**Math 7**

1	2	3	4	5	Lesson 1-5
—	—	—	<u>X</u>	—	Students are given well-posed(beyond basic thinking) problems
—	—	—	<u>X</u>	—	Students are given problems that require problem-solving strategies
—	—	<u>X</u>	—	—	There is a range of complexity offered in the materials
—	<u>X</u>	—	—	—	Problem solving is scaffold, but not explicit (requiring student perseverance)
—	—	—	<u>X</u>	—	Problem solving is not relegated to one or two lessons per unit/ chapter, but throughout the entire textbook

*Be cautious of materials that use word problems as problem-solving. Often the word-problem is simply a computational problem placed in a context. True problem-solving requires a student to wonder and attempt with more than a reliance on the newly acquired skill.*

Notes:

3.1 3.2 3.3 3.4 3.5

## Math 8

1	2	3	4	5	<b>Lesson 1-5</b>
—	_X_	—	—	—	Students are given well-posed(beyond basic thinking) problems
—	_X_	—	—	—	Students are given problems that require problem-solving strategies
—	_X_	—	—	—	There is a range of complexity offered in the materials
—	_X_	—	—	—	Problem solving is scaffold, but not explicit (requiring student perseverance)
—	_X_	—	—	—	Problem solving is not relegated to one or two lessons per unit/ chapter, but throughout the entire textbook

*Be cautious of materials that use word problems as problem-solving. Often the word-problem is simply a computational problem placed in a context. True problem-solving requires a student to wonder and attempt with more than a reliance on the newly acquired skill.*

Notes:

1.2, 2.1, 3.1, 4.1, 5.1

**Claim #3: Does the textbook material offer students the opportunity to precisely construct viable arguments to support their own reasoning and to critique the reasoning of others?**

Start by reviewing the SBAC sample items found at <http://commoncore.fcoe.org/subject/mathematics>

**Prompt:** Choose five lessons (each based on a different standard or cluster of standards). Compare the assessment questions to the SBAC sample items. Check for the information above. Verify with other members of your Textbook Adoption Team.

**Note:** For this prompt, do not limit yourself to the Teacher Edition. Look in ancillary materials such as assessment workbooks, assessment masters, alternate assessments, etc.

**Math 7**

1	2	3	4	5	<b>Lesson 1-5</b>
—	—	—	—	X	Students are given problems that are open-ended and require an explanation.
—	—	—	—	X	Available lessons scaffold on each other so that students learn about creating a viable argument.
—	—	X	—	—	Materials contain assessments that require a precise answer and precise explanation
—	X	—	—	—	Students are given the opportunity to critique the reasoning of others.
—	X	—	—	—	Students are given the opportunity to critique their own reasoning

Notes:

2-1, 2-2, 2-3, 2-4, 2-5

## Math 8

1	2	3	4	5	Lesson 1-5
<u>X</u>	—	—	—	—	Students are given problems that are open-ended and require an explanation.
—	—	<u>X</u>	—	—	Available lessons scaffold on each other so that students learn about creating a viable argument.
—	<u>X</u>	—	—	—	Materials contain assessments that require a precise answer and precise explanation
—	—	<u>X</u>	—	—	Students are given the opportunity to critique the reasoning of others.
—	—	<u>X</u>	—	—	Students are given the opportunity to critique their own reasoning

Notes:

1.1, 2.1, 3.1, 4.1, 5.1

**Claim #4: Does the textbook material offer students the opportunity to analyze complex, real-world scenarios? Is the student offered the opportunity to develop a mathematical model to interpret and solve problems?**

Start by reviewing the SBAC sample items found at <http://commoncore.fcoe.org/subject/mathematics>

**Prompt:** Choose five lessons (each based on a different standard or cluster of standards). Compare the assessment questions to the SBAC sample items. Also review the SBAC [performance task specifications](#) to check for complexity. Check for the information above. Verify with other members of your Textbook Adoption Team.

**Note:** For this prompt, do not limit yourself to the Teacher Edition. Look in ancillary materials such as assessment workbooks, assessment masters, alternate assessments, etc.

### Math 7

1	2	3	4	5	Lesson 1-5
—	—	—	X	—	Students are given problems that are open-ended multi-step.
—	—	—	—	X	Lessons reference real-world (student) scenarios (Math Practice #4).
—	—	—	—	X	Materials contain lessons and assessments that lead to analysis of complex (grade level appropriate) situations.
—	—	X	—	—	Students are given the opportunity develop a “plan of action” to solve a problem.
—	—	—	—	X	Students are given the opportunity work as individuals and in groups to solve problems

Notes:

3.3, 2.3, 1.7

## Math 8

1	2	3	4	5	<b>Lesson 1-5</b>
_X_	_	_	_	_	Students are given problems that are open-ended multi-step.
_	_X_	_	_	_	Lessons reference real-world (student) scenarios (Math Practice #4).
_	_	_X_	_	_	Materials contain lessons and assessments that lead to analysis of complex (grade level appropriate) situations.
_	_X_	_	_	_	Students are given the opportunity develop a “plan of action” to solve a problem.
_	_X_	_	_	_	Students are given the opportunity work as individuals and in groups to solve problems

Notes:

None

## Technology Enhanced items

Start by reviewing the [SBAC technology enhanced sample items](#)

**Prompt:** Looking at what the publisher has available electronically; compare the assessment questions to the SBAC sample items. Check for the information above. Verify with other members of your Textbook Adoption Team.

### Math 7

1	2	3	4	5	Lesson 1-5
—	—	—	—	X	Electronic materials are available for teacher and student use.
—	—	—	—	X	Electronic resources are not limited to CD's and DVD's, but include online resources (online materials can be updated while CD's and DVD's are a one-time creation).
—	—	—	X	—	Electronic materials are aligned to a similar format to SBAC.
—	—	—	X	—	Technology enhanced items are written to groups and/or clusters of standards, not just one.
—	X	—	—	—	Electronic materials are accessible and easy to use.

Notes:

Average of three teachers responses.

## Math 8

1	2	3	4	5	Lesson 1-5
—	—	—	—	<u>X</u>	Electronic materials are available for teacher and student use.
—	—	—	—	<u>X</u>	Electronic resources are not limited to CD's and DVD's, but include online resources (online materials can be updated while CD's and DVD's are a one-time creation).
<u>X</u>	—	—	—	—	Electronic materials are aligned to a similar format to SBAC.
—	—	<u>X</u>	—	—	Technology enhanced items are written to groups and/or clusters of standards, not just one.
—	—	<u>X</u>	—	—	Electronic materials are accessible and easy to use.

Notes:

None



### **End of Category 3: Universal Access and Instructional Strategies (from an assessment point of view)**

After reviewing the book for Assessment, add in your observations regarding these three areas:

**Universal Access** can be viewed through RtI, Differentiated Instruction, Multi-Tier Systems of Support (MTSS), Universal Design for Learning (UDL), and Equity and Access activities.

1. Universal Access was evident in the following ways:

The book provides students with a variety of learning styles including: Inquiry, analyzing, and reflecting all work in learning the skill being taught, virtual manipulatives, ebook interactive tool, vocabulary supports and it can accommodate students with diverse learning styles.

2. Universal Access is clearly applied in the following ways:

The book has hands-on activities that allows students to discover a skill or concept and can be used if applicable by teacher. It also has a variation of handouts for each lesson that students can work on. available in resource tabs.

3. Universal Access is supported by these TE pages and ancillary materials:

The TE of the book describes the lesson in detail along with justifications for each step that allow teachers to embed in their lessons and allow students to explain their reasoning for their responses.

**Instructional Strategies** are not prescribed in the mathematics framework, but outlined for the benefit of building a teacher's repertoire. How were the following models offered throughout the text and are the instructional strategies appropriate for the learning objective(s)?:

1. 5E Model: (1) Engage, (2) Explore, (3) Explain, (d) Elaborate, and (e) Evaluate (Interactive Strategy)

The 5E model is incorporated in different aspects of the lesson where students can work on inquiry of a lesson together. They can analyze the information they learned to reflect. This allows them to practice the skill efficiently and able to solve real world problems. Many online resources available.

2. The Three-Phase Model (Explicit Strategy)

The book incorporates different aspects of the lesson where students can work on inquiry of a lesson together. They can analyze the information they learned to reflect. This allows them to practice the skill efficiently and able to solve real world problems.

3. Concept Attainment Model (Interactive Strategy)

Students can use the online program of McGraw to watch videos that model the skills for them and also practice on their own. It also allows them to view how problems are solved along with justifications for each problem so that they're able to see what the expectations are for the problems.

4. Cooperative Learning Model (Implicit Strategy)

Cooperative learning is embedded during guided practice and allows students to work together to persevere in solving problems. McGraw Hill's program also includes inquiry labs.

5. Cognitively Guided Instruction (Implicit Strategy)

The justification aspect can be embedded into the lesson to guide the students in learning the skill.

6. Problem-Based Learning (Interactive Strategy)

Problem solving is offered during independent practice handouts and as standalone handouts for each lesson. It allows students to critically think about the problem and apply the skill taught for the lesson.

Note: for samples and explanations,

<http://www.cde.ca.gov/ci/ma/cf/documents/aug2013instructstrat.pdf>

#### Category 4: Universal Access

This section is based on the information found in the 2013 Math Framework, “Students with special needs must be provided access to the same standards-based curriculum that is provided to all students, including both the content standards and the standards for mathematical practice. Instructional materials should provide access to the standards-based curriculum for all students, including English learners, advanced learners, students below grade level in mathematical skills, and students with disabilities.” Analyze the textbook for the following items—looking over the textbook in general, but focusing on areas of each lesson that lend themselves to these area (an example would be the opening piece of each lesson or special notes for teachers).

1. The textbook offers differentiation strategies based on current and confirmed research.

Yes  No

NOTES:

None

2. Common misconceptions are mentioned, along with ideas for correction

Yes  No

NOTES:

None

3. The textbook contains specialized teaching methods or materials and accommodations for students with special needs

Yes  No

NOTES:

They have some things that would help students with special needs, but not enough resources in the McGraw book for some of my inclusive SpEd students. There is a need to pull extra materials for my students who struggle and have IEP's.

4. Strategies for English learners are incorporated into lessons.

Yes\_\_ No\_X\_\_

NOTES:

None

6. Materials incorporate instructional strategies to address the needs of students with disabilities.

Yes\_X\_\_ No\_\_

NOTES:

Only one day of remedial work to benefit each lesson. I have needed to pull a lot of material since there is not enough materials for the current level of students.

7. Materials include thoughtful and well-conceived alternatives for advanced students that allow students to study in greater depth or complexity.

Yes\_X\_\_ No\_\_

NOTES:

None

8. Materials help English learners access challenging mathematics, learn content, and develop grade-level language (for example: annotations to help with comprehension of words, examples of the use of words in other situations, modifications to language do not sacrifice the mathematics).

Yes\_X\_\_ No\_\_

NOTES:

None

## Final Thoughts

There are many other aspects of the materials that could be analyzed and reviewed. Below are a few more areas to consider for further evaluation:

1. Lesson and unit planning layout and options.

Yes. Online will also allow teachers to calendar out their lessons.

2. Curriculum guide availability.

Yes.

3. All materials available in electronic form and platform neutral.

Yes. McGraw provides all resources online and in print.

4. Concrete models, including manipulatives are available.

Manipulatives are online.

5. Strategies for informing parents or guardians about the program and suggestions for how they can support student progress and achievement.

Yes.

6. Suggestions for accelerating or decelerating the rate at which new material is introduced to students.

Yes.

7. Multiple ways in which to explain concepts.

Yes.