

**STATE TEXTBOOK AND INSTRUCTIONAL
MATERIALS QUALITY COMMISSION**

WORKSHOP AND MEETING MATERIALS

February 1, 2022

10:00 A.M. CST

**WORKSHOP AND MEETING AGENDAS
STATE TEXTBOOK AND INSTRUCTIONAL MATERIALS QUALITY COMMISSION**

February 1, 2022

10:00 A.M. CST

Location

Virtual

Livestream:

Textbook Commission Workshop Agenda*

1. Introductions of Commission Members & Opening Remarks
Dr. Linda Cash, Commission Chair
2. February 1, 2021 Commission Meeting Workshop Agenda Items
Dr. Linda Cash, Commission Chair
3. District Pilot Policy
Dr. Linda Cash, Commission Chair
4. Section B: Mathematics Adoption-Schedule B Review
Ms. Virginia Mayfield, Senior Director of Math, Science, and Instructional Materials, Tennessee Department of Education
5. Section B: Advisory Panelist Selection-Scoring Rubric Training
Ms. Virginia Mayfield, Senior Director of Math, Science, and Instructional Materials, Tennessee Department of Education
6. Section B: Mathematics Adoption-TDOE Advisory Panelist Training Input
Ms. Virginia Mayfield, Senior Director of Math, Science, and Instructional Materials, Tennessee Department of Education

***The Textbook Commission Meeting will begin immediately after the workshop. The Commission will adjourn (if needed) at the time announced during the workshop or meeting.**

**Textbook and Instructional Materials Quality Commission Meeting Agenda
February 1, 2022**

1. Welcome & Introductions

- a. Call to Order
Dr. Linda Cash, Commission Chair
 - b. Roll Call
Ms. Pam Kimbrough, Recording Secretary, Tennessee Department of Education
 - c. Introductions of Commission Members
Dr. Linda Cash, Commission Chair
-

2. Consent Items (Voice Vote)

- a. Adoption of Agenda
Dr. Linda Cash, Commission Chair
-

3. Action Items (Roll Call Vote)

- a. Approval of Minutes, September 9, 2021
Dr. Linda Cash, Commission Chair
 - b. Revisions to Schedule B
Dr. Linda Cash, Commission Chair
 - c. Approval of Math Instructional Materials Scoring Rubrics
Dr. Linda Cash, Commission Chair
 - d. Math Publisher Contract Extensions
Dr. Linda Cash, Commission Chair
-

4. 2022 Meeting Dates

Regularly Scheduled Meeting: March 21, 2022

Set Meeting Dates for September 2022

Dr. Linda Cash, Commission Chair

5. Other Business from the Commission

Dr. Linda Cash, Commission Chair

6. Adjournment

Dr. Linda Cash, Commission Chair

DRAFT

Textbook Commission Workshop-Agenda Item 3

District Pilot Policy 4.100 (Copy in Commission Members Binders): No local school board or publisher may participate in a pilot program of materials being considered for adoption during the 18-month period before the official adoption of the materials by the State Textbook Commission. Publishers are prohibited from offering school-wide copies or classroom sets of any item or material on a trial or pilot basis. Any pilot program must follow the same procedures as unapproved books, pursuant to Tenn. Code Ann. § 49-6-2206. As used in this policy, the term Pilots/Piloting refers to product testing and research in any public school or public school system in the State of Tennessee by any company and/or its parent affiliate.

TCA 49-6-2206 Use of unapproved books and instructional materials — Use of Common Core textbooks or materials prohibited.

(a) An LEA shall not use or permit to be used in any school any textbooks and instructional materials upon any subject to the exclusion of the textbooks and instructional materials listed by the commission and approved by the state board of education; provided, that this prohibition does not apply to textbooks and instructional materials previously listed and purchased with public funds. Upon application of the local board of education, the state board of education may waive this restriction when, in the state board's judgment, the unique or unusual needs of the LEA require it. In making waiver determinations, the state board of education must receive assistance from the department of education. The state board shall outline in its rules specific timeframes when waiver applications may be submitted by a local board of education; provided, that the state board shall allow applications to be submitted outside of the established timeframes in emergency circumstances, as defined by the state board in its rules. A public charter school may request a waiver for the use of textbooks and instructional materials in accordance with § 49-13-111.

(b)(1) If the commissioner of education finds that an LEA knowingly violated this section, then the commissioner shall withhold state funds, in an amount determined by the commissioner, from the LEA until the LEA is in compliance.



Textbook Commission Workshop-Agenda Item 4

DRAFT TENNESSEE TEXTBOOK and INSTRUCTIONAL MATERIALS ADOPTION SCHEDULE*
 SECTION B – ~~Mathematics, CTE~~
 2021-23

Development of Materials Screening Instrument

Commented [VM1]: On Schedule

May 1, 2021	Department of Education begins development of Screening Instruments
August 2021	Standards Review Team provides Screening Instrument feedback
October 2021	3 rd Party Vendor Review of Screening Instruments
December 2021	Reconcile 3 rd Party Vendor Feedback and prepare final Screening Instrument recommendations for the Textbook and Instructional Materials Quality Commission
January 2022	Approval of Section B Screening Instruments by Textbook Instruction Materials Quality Commission

Advisory Panel Schedules

October 11, 2021	Call for Advisory Panelists
November 22, 2021	Deadline for Advisory Panel Application Submission
December 9-10, 2021 February 2022	Advisory Panel Application Review and Selection
January 17-18, 2022 Week of Apr 11, 2022	Asynchronous Advisory Panel Orientation and Training
February 10-11, 2022 April 22-23, 2022	Advisory Panel Training
March 4-6, 2022 Apr. 1-3, 2022 April 25-June 24, 2022	Textbook Review Committee Scoring

Commented [VM2]: Moved to virtual, asynchronous orientation

Commented [VM3]: Scoring shifted to not be in-person scoring. Window of time for reviewers: 9 weeks for 9-12 materials

Textbook Commission/State Board of Education Schedules

April 22, 2021	Workshop Presentation of Schedule B, TBD
September 9, 2021	Approval of Section B Schedule by Textbook Instruction Materials Quality Commission, TBD
Dec. 9-10, 2021 February 2022	Advisory Panel Selection
February 1, 2022	Special Called Meeting of State Textbook Commission, approval of Section B Screening Instruments by Textbook Instruction Materials Quality Commission, (Location TBD) Virtual Meeting

March 21, 2022	Textbook Commission Regularly Called Meeting
January 10, 2022 March 21, 2022	Special Regularly Called Meeting of State Textbook Commission, recognition of Preliminary List of Textbooks and Instructional Materials Bid (Location TBD)
January 10, 2022 March 21, 2022	Special Called Meeting of State Textbook Commission, Approval of Advisory Panelists (Location TBD)
May TBD, 2022 July 22, 2022	Preliminary Adoption List (Section B) Presented at State Board of Education Meeting – Location TBD
July TBD, 2022 Sept. TBD, 2022	Special Regularly called meeting of State Instructional Materials Quality Commission; Publisher Comments; Advisory Panel’s Final Reviews; Recommendation of Books for Section B - Location TBD
July TBD, 2022 Oct. 28, 2022	Final Adoption List (Section B) Presented at State Board of Education Meeting – Location TBD

Publishers Schedules

September 28, 2021	Publisher Standards Meeting
October 15, 2021	Preliminary Notification of Invitation to Bid for Section B, Intent to Bid Documentation Available
November 4, 2021	Intent to Bid Due
December 2, 2021 February 11, 2022	Official Notification of Invitation to Bid, Section B
December 17, 2021 February 18, 2022	Pre-Bid Conference, Section B (Location: TBD) Content Writers and Bid Managers for publishers are expected to attend.
January 6, 2022 March 4, 2022	10:00 a.m. CST Deadline for Delivery of OFFICIAL BIDS Section B
Feb. 15, 2022 March 31, 2022	All Bid Materials must be available for Review On-Line; Public Review Process Begins
Feb. 25, 2022 April 8, 2022	Deadline for: (1) Delivery of Official Sample Textbooks to State Collection Site (MTSU James E. Walker Library, 1301 E. Main, Murfreesboro, TN 37132), (2) Delivery of Sample Textbooks to Textbook Advisory Panel Members, and (3) Delivery of Sample Textbooks to State Textbook Commission Members (if requested)
April 8, 2022 July 8, 2022	Deadline for Advisory Panelists’ Reviews and Public Comments shared with Publishers
June 7, 2022 August 19, 2022	Deadline for publishers to submit revised content (both in print and online) for review
June 9-10, 2022 August 22-23, 2022	Publisher hearings; Advisory Panelists continue reviewing materials; Location TBD
June 24, 2022 August 31, 2022	Final Advisory Panelists’ Reviews shared with Publishers



Department of
Education

July 1, 2022 September 1, 2022	Deadline for Amendments to Free Materials Offerings. Review of online materials will end.
July 8, 2022 September 7, 2022	Deadline for Publishers' Written Responses (Electronic Submission Required) to Reviews is 12:00 PM (CDT)

Textbook Commission Workshop-Agenda Item 5

Version 1:

Application Questions Scoring Rubric: K-2

Applicant:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has had multiple, relevant experiences evaluating and selecting instructional materials	
Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.	The applicant identifies only one component with justification <i>or</i> multiple components with no justification	The applicant identifies multiple components and provides detailed evidence to justify their choices	The applicant identifies multiple components and provides detailed evidence to justify choices, and includes both teacher- and student-related components	
Consider the following Tennessee mathematics standard: <i>2.NBT.C.7 Add and subtract within 1000 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used.</i> What would effective instruction for this standard look like and sound like? How would a high-quality	The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM. OR The applicant only explains what the standard means.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard. OR The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).	

material support the teacher as he/she works with students?		the student or why this lesson is effective.		
Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a Kindergarten, 1 st grade, or 2 nd grade standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.	The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components. AND/OR The applicant only provides a standard for each aspect of rigor without providing justification of their choices.	The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. AND The applicant provides sample standards for each aspect of rigor with explanations for their choices.	The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. AND The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Scoring Task	The applicant matched the exemplar scoring on the rubric for less than 31 of the 41 indicators. (75.6%)	The applicant matched the exemplar scoring on the rubric for at least 35 of the 41 indicators. (85.3%)	The applicant matched the exemplar scoring on the rubric for at least 38 of the 41 indicators. (92.7%)	
Total				

Version 2:

Application Questions Scoring Rubric: K-2

Applicant:

Part 1:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has had multiple, relevant experiences evaluating and selecting instructional materials	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Total				

Part 2:

Question	0	3	5	Applicant's Score
Describe the most important components that should be reviewed when looking at	The applicant identifies only one component with justification <i>or</i>	The applicant identifies multiple components and provides	The applicant identifies multiple components and provides detailed evidence to justify	

mathematics materials for a statewide adoption. Provide justification in your response.	multiple components with no justification	detailed evidence to justify their choices	choices, and includes both teacher- and student-related components	
Consider the following Tennessee mathematics standard: <i>2.NBT.C.7 Add and subtract within 1000 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used.</i> What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?	The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM. OR The applicant only explains what the standard means.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard. OR The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and the student or why this lesson is effective.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).	
Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a Kindergarten, 1 st grade, or 2 nd grade standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.	The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components. AND/OR The applicant only provides a standard for each aspect of rigor without providing justification of their choices.	The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. AND The applicant provides sample standards for each aspect of rigor with explanations for their choices.	The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. AND The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.	
Scoring Task	The applicant matched the exemplar scoring on the rubric for less than 31 of the 41 indicators. (75.6%)	The applicant matched the exemplar scoring on the rubric for at least 35 of the 41 indicators. (85.3%)	The applicant matched the exemplar scoring on the rubric for at least 38 of the 41 indicators. (92.7%)	
Total				
				X2=

Grade 2 Mathematics Instructional Materials Scoring Rubric

Introduction:

The following Instructional Materials Scoring Rubric for Mathematics is designed to score materials in the following categories:

- Instructional Focus
- Math Practices
- Aspects of Rigor
- Accessibility Features

Scoring:

Each section is to be scored using a 0, 1, or 2. For all sections, except for Rigor, use the following rubric when deciding on the appropriate rating:

- 0: The metric is not present within the material.
- 1: The metric is present within the material. The intent and/or frequency component of the metric is not fully met.
- 2: A rating of 2 indicates the metric is present and all aspects of the metric are fully met.

For Rigor:

- 0: The standard is not instructionally present within the material.
- 1: The standard is instructionally present but does not have an instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards may include multiple types of rigor. When scoring, the relevant part of the standard is identified by a bold, italics, larger font. If a portion of a standard is in a bold, italics, larger font, score only that part of the standard for alignment to the indicated aspect of rigor.
- 2: The standard is instructionally present and has a clear instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards that cross multiple types of rigor are indicated by highlighting. The highlighted portion of the standard is the part of the standard to be focused on for the indicated aspect of rigor.

Grade 2 Mathematics Instructional Materials Scoring Rubric

Gateway: The publisher must provide a Tennessee standards alignment guide as a part of the scope and sequence for the material. If this gateway is not met, the materials will not be scored.

Instructional Focus				
	0	1	2	Evidence
Connections to content from prior grades are clearly identified and explicitly related to grade-level work.		✓		
Materials embed a minimum of 3 tasks in every unit. Each task has multiple entry-points and can be solved using a minimum of 2 solution strategies and/or representations.			✓	
Materials give students opportunities to work problems within each lesson. Each problem set: <ul style="list-style-type: none"> • Covers the full breadth of the standard(s) covered in the lesson • Is aligned to on grade level expectations as identified in the standard(s) 			✓	
Teacher resources indicate common student misconceptions in every unit and provide guidance on how to instructionally address the identified misconceptions.		✓		
Materials provide educative supports (e.g., adult level explanations of the standards) in every lesson for teachers to ensure standards are taught accurately and to the appropriate level of rigor (i.e., conceptual understanding, procedural fluency, and application) as indicated by the standards.			✓	
Materials develop student understanding of multiple representations (i.e., concrete, representational, abstract) for relevant standards which are identified in the state's Instructional Focus Documents.			✓	
Materials include problems and activities in every unit that connect two or more grade level standards in a domain (e.g., 2.MD.A.1 and 2.MD.A.2).			✓	
Materials include problems and activities in every unit that connect two or more grade level domains. (e.g., 2.MD.B.6 and 2.OA.A.1)			✓	
Materials provide opportunities for students to participate in a spiraled review in every unit.				This does not apply for the application exercise.
Total				14

Grade 2 Mathematics Instructional Materials Scoring Rubric

Mathematical Practices				
Math Practices/Literacy Skills for Math Proficiency	0	1	2	Evidence
Materials embed the eight math practice standards in every unit.			✓	
Math practice standards are clearly identified in both teacher and student materials.		✓		
Materials use appropriate math vocabulary which is aligned to the grade level standards.			✓	
Materials support students in discussing and articulating mathematical ideas. Within each lesson students either write or verbally justify their thoughts.			✓	
Total				7

Aspects of Rigor				
Conceptual Understanding: The materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters.	0	1	2	Evidence
2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects or counting them by 2s. Write an equation to express an even number as a sum of two equal addends.			✓	
2.OA.C.4 Use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.			✓	
2.OA.D.1 Identify arithmetic patterns in an addition or hundreds chart and explain them using properties of operations.	✓			
2.NBT.A.1 Know that the three digits of a three-digit number represent amounts of hundreds, tens, and ones			✓	
2.NBT.A.2 Recognize, describe, extend, and create patterns when counting by ones, twos, fives, tens, and hundreds and use those patterns to predict the next number in the counting sequence up to 1000 through counting.			✓	
2.NBT.A.3 Read and write numbers to 1000 using standard form, word form, and expanded form.	✓			

Grade 2 Mathematics Instructional Materials Scoring Rubric

2.NBT.A.4 Compare two three-digit numbers based on the meanings of the digits in each place and use the symbols $>$, $=$, and $<$ to show the relationship.	✓			
2.NBT.B.6 Add up to four two-digit numbers using properties of operations and strategies based on place value.	✓			
2.NBT.C.7 Add and subtract within 1000 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used.	✓			
2.NBT.C.8 Mentally add or subtract 10 or 100 to/from any given number within 1000.	✓			
2.MD.A.2 Measure the length of an object using two different whole number units of measure and describe how the two measurements relate to the size of the unit chosen.	✓			
2.MD.A.3 Estimate lengths using whole number units of inches, feet, yards, centimeters, and meters.	✓			
2.MD.B.6 Represent whole numbers as lengths from 0 on a number line and know that the points corresponding to the numbers on the number line are equally spaced. Use a number line to represent whole number sums and differences of lengths within 100.			✓	
2.G.A.3 Partition circles and rectangles into two, three, and four equal shares. Describe the shares using the words halves, thirds, fourths, half of, a third of, and a fourth of, and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	✓			
Procedural Skill and Fluency: The materials provide intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters	0	1	2	Evidence
2.OA.B.2 Fluently add and subtract within 30 using mental strategies. By the end of 2nd grade, know all sums of two one-digit numbers and related subtraction facts.			✓	
2.NBT.B.5 Fluently add and subtract within 100 using properties of operations, strategies based on place value, and/or the relationship between addition and subtraction.			✓	
2.MD.A.1 Measure the length of an object in whole number units by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	✓			
2.MD.A.2 Measure the length of an object using two different whole number units of measure and describe how the two measurements relate to the size of the unit chosen.	✓			

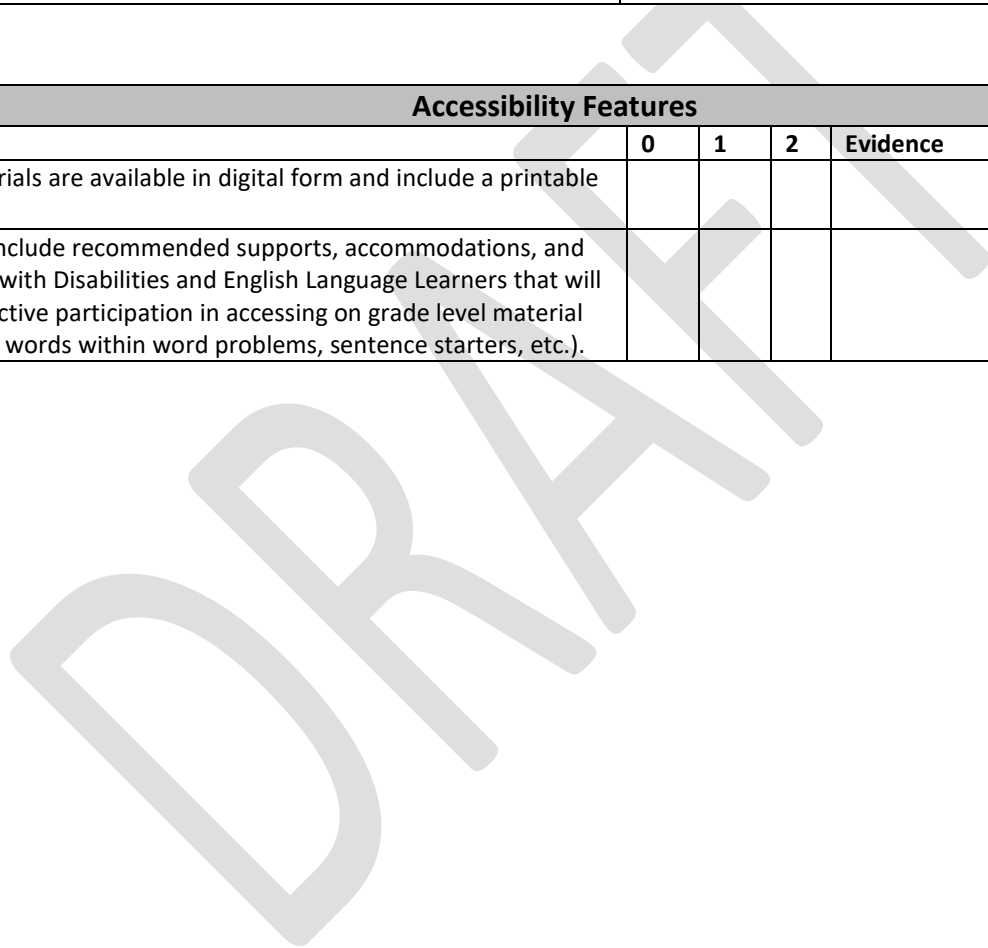
Grade 2 Mathematics Instructional Materials Scoring Rubric

2.MD.A.4 Measure, using whole number lengths, to determine how much longer one object is than another and express the difference in terms of a standard unit of length.	✓			
2.MD.C.7 Tell and write time in quarter hours and to the nearest five minutes (in a.m. and p.m.) using analog and digital clocks.	✓			
2.MD.D.9 Given a set of data, create a line plot, where the horizontal scale is marked off in whole-number units.	✓			
2.MD.D.10 <i>Draw a pictograph (with a key of values of 1, 2, 5, or 10) and a bar graph (with intervals of one) to represent a data set with up to four categories.</i> Solve addition and subtraction problems related to the data in a graph.			✓	
2.G.A.1 Identify triangles, quadrilaterals, pentagons, and hexagons. Draw two-dimensional shapes having specified attributes (as determined directly or visually, not by measuring), such as a given number of angles/vertices or a given number of sides of equal length.	✓			
2.G.A.2 Partition a rectangle into rows and columns of same-sized squares and find the total number of squares.			✓	
2.G.A.3 <i>Partition circles and rectangles into two, three, and four equal shares. Describe the shares using the words halves, thirds, fourths, half of, a third of, and a fourth of, and describe the whole as two halves, three thirds, four fourths.</i> Recognize that equal shares of identical wholes need not have the same shape.	✓			
Applications: The materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters.	0	1	2	Evidence
2.OA.A.1 Add and subtract within 100 to solve one- and two-step contextual problems, with unknowns in all positions, involving situations of <i>add to</i> , <i>take from</i> , <i>put together/take apart</i> , and <i>compare</i> . Use objects, drawings, and equations with a symbol for the unknown number to represent the problem.			✓	
2.MD.B.5 Add and subtract within 100 to solve contextual problems, with the unknown in any position, involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown to represent the problem.	✓			
2.MD.C.8 Solve contextual problems involving amounts less than one dollar including quarters, dimes, nickels, and pennies using the ¢ symbol appropriately. Solve contextual problems involving whole number dollar amounts up to \$100 using the \$ symbol appropriately.			✓	

Grade 2 Mathematics Instructional Materials Scoring Rubric

2.MD.D.10 Draw a pictograph (with a key of values of 1, 2, 5, or 10) and a bar graph (with intervals of one) to represent a data set with up to four categories. <i>Solve addition and subtraction problems related to the data in a graph.</i>			✓	
Total	24			

Accessibility Features				
Digital Materials	0	1	2	Evidence
All lessons within the materials are available in digital form and include a printable option.				
In every lesson, materials include recommended supports, accommodations, and modifications for Students with Disabilities and English Language Learners that will support their regular and active participation in accessing on grade level material (e.g., modifying vocabulary words within word problems, sentence starters, etc.).				



Math Advisory Panel Exemplar Responses

	Exemplar Components
<p>Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.</p>	<p>Standards alignment: Ensuring that responses are aligned to TN standards.</p> <p>Depth of standards: The applicant should mention instruction and materials being rigorous and supporting a deep understanding on math content knowledge.</p> <p>Vertical progression and Coherence: The responses should identify the importance of building upon prior knowledge and being aligned with future work of the grade and in future grades.</p> <p>Mathematical Practices: The mathematical practices should be integrated into responses to ensure these ideas are included in the HQIM</p> <p>Instructional Practices: This idea is focused on highly effective instructional practices and lessons that lead to learning and growth. The practices must meet the needs of diverse learners.</p> <p>Accuracy: Math material must be correct in terminology and content.</p> <p>Student Work: The content must meet the needs of all learner and provided a variety of problems and questions to support learning.</p>
<p>Considering the selected Tennessee mathematics standard, what would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>Concrete models: This concept focuses on allowing students to learn with manipulatives and move to a representation model before applying learning to solve problems.</p> <p>Discussions/Talk Routines: Responses about increasing literacy and justifications around a mathematical idea with different talk routines for students</p> <p>Aspects of rigor: Effective instruction includes building conceptual understanding of math ideas to a deep level. Building procedural skill to solve problems in an efficient, flexible, and correct way. Applying math skills to solve problems in a context.</p> <p>Preparation: HQIM should allow teacher to prepare lessons and not require them to plan each component of instruction. There should be questions to support instruction and highlighted differentiation to meet the needs of all learners.</p> <p>Coherence: Lessons should build during a unit to allow a clear learning path for all students.</p> <p>Differentiation: HQIM provided different ways to support different types of learners and learnings that are not developing skills as the same rate.</p> <p>Student work: HQIM should allow for adequate student application to give students a chance to show what they are learning and how they should be supported.</p> <p>Problem types: HQIM should offer a variety of problems and situations to give students practice solving different types of problems.</p>
<p>Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.</p>	<p>Conceptual Understanding: This aspect focuses on developing an understanding of the mathematical ideas within standards. There is a focus on discussing how and why specific math skills work in the classroom. The concepts should build upon one another across the standards.</p> <p>Procedural Skills: This aspect is focused on efficiency, flexibility, and accuracy. Students should be able to find solutions to a variety of problems using a process that is efficient for them. This could include flexibly using the standard algorithm or an invented strategy. It is also important for students to get the correct answer when they are solving problems.</p> <p>Application: This aspect allows students to make meaningful connections to concepts. They will focus on solving contextual problems in real-world situations.</p>

K-2 Math Advisory Panel Exemplar Reponses

	Exemplar Responses
<p>Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.</p>	<p>Math materials should align to the Tennessee state standards, mathematical practices, and math literacy standards. HQIM should foster focus and coherence by connecting topics across domains and clusters in a grade-level and across the grade levels. Each grade level's instructional materials should reflect the rigor of the standards and the materials should be designed to develop conceptual understanding with manipulatives build procedural fluency throughout the year, and application skills to solve problems. Materials should have a hands-on learning component to engage students and allow them to practice learning. Materials should be well organized and easy to use for teachers and students with teacher's editions that have clear connections between teacher resources and effective instruction. Guidance should be provided for lesson planning, content knowledge, instructional delivery, questions to prompt student thinking, and differentiated support.</p>
<p>Consider the following Tennessee mathematics standard: 2.NBT.C.7 Add and subtract within 1000 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used. What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>Effective instruction for this standard requires the CRA model. The students would need to learn with manipulatives to ensure they understand the concept before moving forward. Teachers would support learning by posing questions to allow students to think about the concepts. In addition, students would need to be asked to justify their solutions. The HQIM should provide ideas to support students that are struggling with the instruction and differentiation to meet their needs. There should also be ways to allow students to practice their thinking and apply their learning. The materials should allow teachers to prepare the lesson without having to pull in multiple resources to make a lesson successful.</p> <p>In relation to standard 2.NBT.B7, effective instruction would build on multiple strategies for number to 100. The students should have mastered adding like units in different places. One important part is making sure that students get a chance to use different ways to solve the problem including the standard algorithm and concrete examples to add and subtract. The student should then get to decide which strategy is the best for them. The materials should have support for the teachers with specific directions, student examples, and videos to support instruction. Finally, there must be a place for students to practice the new learning and supports available to help students when they do not master the skills being taught.</p>
<p>Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.</p>	<p>**Specific standards must be referenced within the applicant's response for each aspect. A variety of standards could be accepted as long as the applicant provides an accurate rationale.**</p> <p>Conceptual understanding helps students develop a deep understanding of the mathematics and helps with making connections between math ideas. Procedural skill is the ability to apply strategies to solve problems accurately, efficiently, and flexibly. This is not just memorizing facts or just using one strategy. Application provides students with meaningful opportunities to apply their mathematical knowledge to solve problems. The standards we teacher require a focus on different aspects of rigor. These all three work together to ensure students master standards at a deep level.</p> <p>Conceptual Understanding: K.NBT.A.1 Compose and decompose numbers from 11 to 19 into ten ones and some more ones by using objects or drawings. Record the composition or decomposition using a drawing or by writing an equation. This standard shows students working on building an understanding of comparing numbers. They are learning about the meaning of each digit and developing an understanding of comparing numbers</p> <p>Procedural Skill: 2.OA.B.2 Fluently add and subtract within 30 using mental strategies. By the end of 2nd grade, know from memory all sums of two one-digit numbers and related subtraction facts. This standard is focused on fluently using concepts to solve addition and subtraction problems</p> <p>Application: 1.MD.A.1 Order three objects by length. Compare the lengths of two objects indirectly by using a third object. For example, to compare indirectly the heights of Bill and Susan: if Bill is taller than mother and mother is taller than Susan, then Bill is taller than Susan. Application standards allow students to focus on using the math concepts that they are learning to solve real-world problems with a context.</p>

3-5 Math Advisory Panel Exemplar Responses

<p>Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.</p>	<p>The materials adopted by a district should address the Tennessee academic standards. They must build on foundational skills and build conceptually understanding. The materials must present reasoning strategies that help students learn facts more efficiently and not just tricks to calculate answers. Again, the skill and drill of only learning one way of understanding math facts should go away. Materials should encourage discussions with peers to solidify the learning as well as expose them to someone else's reasoning strategies. There should also be assessments to track progress and help teachers identify what support students need. The materials should be the source for the supports and ways to make the instruction attainable for each student. We know that students learn differently and we have to have materials that meet the needs of diverse learners. HQIM should also provided connections between prior learning and future learning to make sure connections are made for students. The mathematical practices should be integrated and standards should be taught and retaught as needed. Finally, the materials provided should be teacher and student friendly. The materials should have everything that a teacher needs to plan for a lesson. There should be questions, problems to practice, and support for learners. The students should get a chance to practice the concepts they are learning with a variety of problems. These practice problems will help the teacher see what they need to continue teaching.</p>
<p>Consider the following Tennessee mathematics standard: 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>High-quality materials should be used as the resource to plan and guide instruction. Scaffolding is essential to teaching this standard to ensure conceptual understanding of each step in the multiplication process. Students would need to understand place value and how we can break numbers apart. The conceptual understanding would make using other strategies an easy progression. Materials should include visual models, manipulatives, digital manipulatives, and area models before introducing regrouping and the standard algorithm. Once students have deep conceptual learning of area models and grouping, they can progress to understanding that on an area model. Effective instruction uses materials that show various strategies, but continues to link each strategy back to the fundamental conceptual understandings students have mastered. If instruction if effective and materials are high quality, it will lead students to the realization that each of the strategies we can use for multiplication involve the exact same steps, just recorded differently. This standard requires teachers to use the gradual release model and ongoing support. It is important to remember the CRA instructional approach to meet the needs of the learners in the classroom. The manipulatives discussed will help student develop a deeper level of understanding.</p>
<p>Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.</p>	<p>**Specific standards must be referenced within the applicant's response for each aspect. A variety of standards could be accepted as long as the applicant provides an accurate rationale.**</p> <p>HQIM will have conceptual understanding, procedural skill, and application throughout the standards. These three components are coexist together. Students need a solid understanding of number sense/conceptual understanding in order to make connections with the procedural skill and application. Conceptual Understanding is using strategies to solve problems. Procedural Skill is being able to solve problems in efficient, flexible, and accurate ways. Application is being able to apply conceptual understanding and procedural skill within a contextualized problem or being able to reason through a problem.</p> <p>Conceptual Understanding: 4.NBT.A.2-The are able to use base ten blocks and explore the value of numbers and make connections to the value when comparing numbers. This standard allows students to practice the concept of place value and will help them build on future learning.</p> <p>Procedural Skill: 4.NBT.B-This standard focuses on solving addition and subtraction problems. There is still value in looking at the concepts when students struggle with the standard. However, students at the fourth-grade level are able to move into larger numbers and subtract using the standard algorithm, provided they conceptually understand the idea of regrouping. Regrouping is the conceptual part of this lesson that may need to be reinforced prior to the instruction with the standard algorithm.</p>

	<p>Application: 4.MD.A.3- Student will have to be able to conceptually explore the concept of perimeter and area, procedurally develop an understanding of the formula, and then they can see the real-world application of the standard. This type of standard gives students the chance to use their knowledge to solve contextual problems.</p>
--	--

DRAFT

6-8 Math Advisory Panel Exemplar Responses

	<u>Exemplar Responses</u>
<p>Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.</p>	<p>Materials should appropriately address the Tennessee specific state math standards with content that is clearly aligned to the focus and depth of grade-level standards. Materials should also address coherence by providing learning opportunities that intentionally relate new concepts to prior skills and knowledge. Mathematics materials should be aligned to the standards by intentionally targeting the aspect(s) of rigor called for by the standard(s) addressed in each lesson by ensuring a balanced approach to conceptual understanding, procedural fluency and application. To adequately address these components of the math standards, materials should include opportunities for inquiry based instructional where students discover conceptual understanding of grade level mathematical concepts. Materials should also include the use of the concrete, representational and abstract progression of learning. In addition to standards alignment, mathematics materials should be reviewed for learning experiences that promote both the NCTM Effective Teaching Practices and Standards for Mathematical Practice. The materials should also include resources for reaching all students (ELL, students with disabilities, tier II and tier III, etc.) that are on grade-level. Materials should be cohesive across grade levels.</p>
<p>Consider the following Tennessee mathematics standard: 7.SP.D.8d Relate and understand the choice of measures of center (median and/or mean) and variability (range and/or interquartile range) to the shape of the data distribution and the context in which the data were gathered. What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>The teacher should facilitate connecting and extending students' knowledge of 6.SP.A.2 and 6.SP.A.3 in which students should have understood that collecting data to answer a statistical question has a distribution that can be described by its center, it's spread, and the overall shape. Instruction for this standard should include opportunities for students to summarize numerical data derived from statistical questioning using quantitative measures of center (mean and/or median) and variability (range and /or interquartile range). Effective instruction should incorporate Mathematical Practice 2 where students are expected to make sense of their choice of mean or median within a context. Research shows that effective instruction incorporates student discourse, so students should be given multiple opportunities to discuss and defend their thinking about the choice of mean or median given a data set in context. Instructional materials should include opportunities for students to be able to express what a measure of center or variability means in the context of the problem, tasks with teachers prompts and questions that lead students to discover the realization that the measure of center chosen to describe a data set will depend upon the shape of the data distribution and context of data collection. Materials should include situations that expose students to data sets with extreme values that lead students to recognize when a different measure might be more descriptive and appropriate for the given data set. High-quality instructional materials are critical to support teachers in their instruction since this standard is typically a standard that requires high-quality data sets and diagrams/graphs to show the distribution of the data set. Since prior knowledge also plays a key role in students mastering this standard, it is also important that the materials provide appropriate scaffolding for teachers who may need to close gaps in prior knowledge in order to help students master this standard. To show variation of data, materials should include math tasks that require the interpretation of data represented by graphs such as line plots, histograms, and box and whisker plots. Multiple opportunities to summarize data sets in relation to the context will be essential in solidifying students' ability to select an appropriate measure. Materials should include teacher prompts and questions that promote student discourse around justifying the measure of center or variability chosen. Additionally, it is important that the materials can help the students explore, practice, and show mastery of the standard which requires not only high-quality tier 1 material but also high-quality assessment items and remediation materials.</p>

<p>Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.</p>	<p>**Specific standards must be referenced within the applicant’s response for each aspect. A variety of standards could be accepted as long as the applicant provides an accurate rationale.**</p> <p>Conceptual understanding helps students make sense of mathematics in a way that builds on prior knowledge, investigate mathematical properties, and discover the underlying principles of concepts which leads to long lasting knowledge and the ability to rediscover the concept when needed. One standard that develops conceptual understanding for students is 7.G.B.3: Know the formulas for the area and circumference of a circle and use them to solve problems. Explore the relationships between the radius, the circumference, and the area of a circle and the number π. This standard may seem, at first glance, to be a procedural standard. Students should be given the opportunity to develop conceptual understanding of the relationship between radius, circumference, area, the number π, and how they relate to each other. Students with a conceptual understanding of the relationships will “know” the formulas without having to memorize.</p> <p>Procedural skill is the ability to apply strategies to solve problems accurately, efficiently, and flexibly. This is not just memorizing facts or just using only one strategy. Students who have mastered procedural understanding are able to move flexibly and fluently between different strategies to quickly and accurately solve problems. One standard that develops procedural skills for students is 6.NS.B.3: Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm and making connections to previous conceptual work with each operation. Students who have mastered this standard have developed a conceptual understanding and can now fluently move between different strategies to solve problems, including using standard algorithms.</p> <p>Application involves applying mathematics to other areas of math and the real world. The newly revised standards focus on real-world application, which allows students to see mathematics as relevant, necessary, and personal to them. One standard that provides opportunities for students to use application is 7.G.B.5: Solve real-world and mathematical problems involving area of two-dimensional figures composed of triangles, quadrilaterals, and polygons, and volume and surface area of three-dimensional objects composed of cubes and right prisms. Students should be given multiple opportunities to explore how to apply what they know about finding area, volume and surface area to real world situations involving composite figures.</p>

High School Math Advisory Panel Exemplar Responses

	Exemplar Responses
<p>Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.</p>	<p>HQIM content MUST be accurate. It is problematic when textbooks use terminology incorrectly or do not adequately show how content from prior grade levels is connected to current content. Classroom materials must meet the needs of diverse learners. Tennessee contains a diverse population of students that differs from one county to another. Textbook reviews must ensure that supports are given in the materials for this variety of learners (ethnicity, culture, race, exceptional education, English language learners). Finally, there must be high quality types of problems for students to solve. Students need different types of open-ended problems with a real-world context to solve. These problems should cover multiple standards and have with multiple solution paths. In addition, there should be straightforward problems that show mastery of individual skills within the standards to ensure students get a chance to see problems that would appear on the ACT, SAT, or TCAP tests.</p>
<p>Consider the following Tennessee mathematics standard: A1.F.IF.C.9a / M1.F.IF.C.6a Compare properties of two different functions. Functions may be of different types and/or represented in different ways. {Scope and Clarification: Functions may or may not have a real-world context. Tasks are limited to linear functions and exponential functions with integer exponents.} What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>HQIM must provide different types of problems with a clear progression and variety. Teachers often struggle to find an entry point for students. If instruction just jumps in and doesn't explain "the why," then students may struggle with the concept. The standard should be introduced with an entry problem from 8th grade that includes a verbal description of a linear relationship embedded in a real-world context with questions and prompts on how to represent this function in multiple ways. The student would then identify properties of the relationship with questions given within the HQIM. This learning would build upon prior learning to teacher A1.F.IF.C.8. Our current standard states in the level 1 understanding that students should be able to "describe connections among multiple representations of a linear function. By starting with multiple representations of a single linear function, students can have an anchor for future comparisons of linear functions. This anchor chart would be represented in the curriculum so that students and teachers alike can continue to reference this throughout their work with this standard. Students would then create their own comparison statements given two representations and for a challenge students would be asked to create their own.</p> <p>In the next section, once exponential functions had been introduced, students would follow the same pattern. Entry problem to represent one exponential function in multiple ways, then multiple problems comparing two exponential functions, then create comparison statements and then create their own example.</p> <p>The final piece of this standard would be to compare a linear function and an exponential function represented in different ways. This is one of the level three evidence of learning statements. This would also provide opportunity for students to identify each of the function families represented.</p> <p>Student discussion is also important to have throughout each of the items used. There would be questions to promote student talk that are grounded in the talk routine of the curriculum with teacher notes that would have additional scaffolds that could be implemented to help the teacher reach students who are lacking in understanding.</p> <p>Students would not only be prompted to talk, but they would also be prompted to write and reflect independently. They would be given opportunity to provide evidence of understanding within the curriculum notes and teachers would be provided ways to informally assess their students' understanding multiple times throughout the lesson.</p> <p>While the entire standard would not be mastered in a single "lesson" or even "unit," a high quality instructional material would provide links throughout the curriculum to remind teachers of a standard left unfinished. It would also provide a prompt for students at the start of a new unit to make connections to prior knowledge, first, with linear functions in 8th grade, and then, with the prior Algebra 1 lesson so that students could make connections between linear and exponential functions.</p> <p>HQIM should provide student questions embedded within the lesson to promote student talk, questions and prompts for teachers to encourage student discourse, small group activities that would allow for productive struggle but still have supports in place if students needed help, short formative checks embedded throughout lessons to inform instruction and ways for the student and teacher to analyze results, initially use problems that are easier to visualize and have easier numbers to manipulate so they can understand the concept while working on easier procedural fluency, anchor charts that provide an easy visual for the student to reference</p>

Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.

****Specific standards must be referenced within the applicant's response for each aspect. A variety of standards could be accepted as long as the applicant provides an accurate rationale.****

Conceptual understanding calls for students to make sense of mathematics in a way that builds on prior knowledge, investigate mathematical properties, and discover the underlying principles of concepts which leads to long lasting knowledge and the ability to rediscover the concept when needed. One standard that develops conceptual understanding for students is M2.A.REI.A.1 (Understand solving equations as a process of reasoning and explain the reasoning. Construct a viable argument to justify a solution method.). Students must work to understand the logic and reasoning behind solving equations, explain how one step follows logically from the previous step, and consider how and why extraneous solutions may be introduced along the way.

Procedural skill involves students developing procedural fluency based on conceptual understanding by making connections while working on mathematics. Students are problem solving and reasoning through problems to better understand how the concept works and applying their understanding to a variety of different problem types and mathematical situations. One standard that develops procedural skill for students is

M2.A.APR.A.1 (Add, subtract, and multiply polynomials. Use these operations to demonstrate that polynomials form a closed system that adhere to the same properties of operations as the integers.). Students must develop procedural skill around operations with polynomials and explore a variety of problem types that incorporate operations with polynomials. As a result, they can be exposed to common misconceptions, form valid arguments, and critique the reasoning of others. Materials can support this by providing problems that have a variety of required skills and understanding and incorporate a number of different contexts. For example, three sides of a rectangular prism are given as polynomial expressions. Find the volume of the rectangular prism. Tying algebra and geometry together provides students with a better understanding of both because it is constantly making more connections for students.

Application involves applying mathematics to other areas of math and the real world. The newly revised standards focus on real-world application, which allows students to see mathematics as relevant, necessary, and personal to them. One standard that provides opportunities for students to use application is M2.A.CED.A.3 (Rearrange formulas to isolate a quantity of interest using algebraic reasoning.*). While working on this standard, students see how reasoning behind solving equations can be used to isolate variables in common geometric formulas that they already know. Again, making these connections helps solidify their understanding of both solving equations and geometric formulas. Materials can support this learning by providing meaningful context for students to explore. For example, we have a spreadsheet with a column full of various circles' circumferences. Write a formula that would output each circle's radius.

Textbook and Instructional Materials Quality Commission Meeting

Textbook Commission Meeting-Agenda Item 3a

**Textbook and Instructional Materials Quality Commission Meeting Minutes
September 9, 2021
10:00 a.m.**

Davy Crockett Tower, Rm 1A
500 James Robertson Parkway
Nashville, TN 37219

The Textbook Commission Meeting began immediately after the workshop.
Meeting called to order by Commission Chair, Dr. Linda Cash
Meeting called to order at: 11:26 a.m. CST

Commission Chair, Dr. Linda Cash reviewed commission rules and policies.

1. Roll call was taken by Pam Kimbrough, Recording Secretary

Mr. William "Billy" Bryan	Present
Ms. Laurie Cardoza-Moore	Present
Dr. Linda Cash	Present
Dr. John Combs	Present
Dr. Robin McClellan	Present - virtually
Dr. Charles Crowe	Present
Dr. Mark Gonyea	Present
Ms. Marcia Rudd	Present

A quorum was met. Seven voting members present. One non-voting member present.

Introduction of Commission Members was led by Commission Chair, Dr. Linda Cash.

2. Consent Items (Voice Vote) to Amend Agenda to add RFP for Math High Quality Instructional Materials Implementation for discussion

Motion to amend agenda made by Ms. Laurie Cardoza-Moore
No Second. Motion failed.

a. Motion for Adoption of Agenda

Motion to adopt agenda made by Dr. John Combs
Motion seconded by Dr. Mark Gonyea
Dr. Linda Cash, Commission Chair, requested a roll call vote.

Mr. William "Billy" Bryan	Yes
---------------------------	-----

Ms. Laurie Cardoza-Moore	Yes
Dr. Linda Cash	Yes
Dr. John Combs	Yes
Dr. Charles Crowe	Yes
Dr. Mark Gonyea	Yes
Ms. Marcia Rudd	Yes

Adoption of Agenda passed unanimously.

3. Action Items (Roll Call Vote)

a. Approval of Minutes, April 22, 2021

Motion to approve: Mr. Billy Bryan

Motion seconded: Dr. Charles Crowe

Mr. William "Billy" Bryan	Yes
Ms. Laurie Cardoza-Moore	Yes
Dr. Linda Cash	Yes
Dr. John Combs	Yes
Dr. Charles Crowe	Yes
Dr. Mark Gonyea	Yes
Ms. Marcia Rudd	Yes

Motion approved unanimously.

4. 2021 Meeting Dates

- a. Monday, January 10, 2022 at 10:00 am (special called meeting)
- b. Monday, March 21, 2022 at 10:00 am

5. No other Business from the Commission

6. Meeting adjourned by Commissioner Chair Linda Cash at: 11:57 a.m. CST

Textbook Commission Meeting-Agenda Item 3c

Introduction:

The following Instructional Materials Scoring Rubric for Mathematics is designed to score materials in the following categories:

- Instructional Focus
- Math Practices
- Aspects of Rigor
- Accessibility Features

Scoring:

Each section is to be scored using a 0, 1, or 2. For all sections, except for Rigor, use the following rubric when deciding on the appropriate rating:

- 0: The metric is not present within the material.
- 1: The metric is present within the material. The intent and/or frequency component of the metric is not fully met.
- 2: A rating of 2 indicates the metric is present and all aspects of the metric are fully met.

For Rigor:

- 0: The standard is not instructionally present within the material.
- 1: The standard is instructionally present but does not have an instructional focus on the indicated type of rigor.
- 2: The standard is instructionally present and has a clear instructional focus on the indicated type of rigor.

Note: Some standards appear under multiple aspects of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). When scoring these standards, only score the part of the standard relevant to that aspect of rigor, which is identified by a bold, italics, larger font.

Instructional Focus				
	0	1	2	Evidence
Connections to content from prior grades are clearly identified and explicitly related to grade-level work.				
Materials embed a minimum of 3 tasks in every unit. Each task has multiple entry-points and can be solved using a minimum of 2 solution strategies and/or representations.				
Materials give students opportunities to work problems within each lesson. Each problem set: <ul style="list-style-type: none"> Covers the full breadth of the standard(s) covered in the lesson Is aligned to on grade level expectations as identified in the standard(s) 				
Teacher resources indicate common student misconceptions in every unit and provide guidance on how to instructionally address the identified misconceptions.				
Materials provide educative supports (e.g., adult level explanations of the standards and strategies) in every lesson for teachers to ensure standards are taught accurately and to the appropriate level of rigor (i.e., conceptual understanding, procedural fluency, and application) as indicated by the standards.				
Materials develop student understanding of multiple representations (i.e., concrete, representational, abstract) for relevant standards which are identified in the state's Instructional Focus Documents.				
Materials include problems and activities in every unit that connect two or more grade level standards in a domain (e.g., 2.MD.A.1 and 2.MD.A.2).				
Materials include problems and activities in every unit that connect two or more grade level domains. (e.g., 2.MD.B.6 and 2.OA.A.1)				
Materials provide opportunities for students to participate in a spiraled review in every unit.				
Total				

Gateway: The publisher must provide a Tennessee standards alignment guide as a part of the scope and sequence for the material. If this gateway is not met, the materials will not be scored.

Mathematical Practices				
Math Practices/Literacy Skills for Math Proficiency	0	1	2	Evidence
Materials embed the eight math practice standards in every unit.				
Math practice standards are clearly identified in both teacher and student materials.				
Materials use appropriate math vocabulary which is aligned to the grade level standards.				
Materials support students in discussing and articulating mathematical ideas. Within each lesson students either write or verbally justify their thoughts.				
Total				

Accessibility Features				
Digital Materials	0	1	2	Evidence
All lessons within the materials are available in digital form and include a printable option.				
In every lesson, materials include recommended supports, accommodations, and modifications for Students with Disabilities and English Language Learners that will support their regular and active participation in accessing on grade level material (e.g., modifying vocabulary words within word problems, sentence starters, etc.).				
Total				

Aspects of Rigor				
Conceptual Understanding: The materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters.	0	1	2	Evidence

Grade 2 Mathematics Instructional Materials Scoring Rubric

<p>2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects or counting them by 2s. Write an equation to express an even number as a sum of two equal addends.</p>				
<p>2.OA.C.4 Use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.</p>				
<p>2.OA.D.1 Identify arithmetic patterns in an addition or hundreds chart and explain them using properties of operations.</p>				
<p>2.NBT.A.1 Know that the three digits of a three-digit number represent amounts of hundreds, tens, and ones</p>				
<p>2.NBT.A.2 Recognize, describe, extend, and create patterns when counting by ones, twos, fives, tens, and hundreds and use those patterns to predict the next number in the counting sequence up to 1000 through counting.</p>				
<p>2.NBT.A.3 Read and write numbers to 1000 using standard form, word form, and expanded form.</p>				
<p>2.NBT.A.4 Compare two three-digit numbers based on the meanings of the digits in each place and use the symbols $>$, $=$, and $<$ to show the relationship.</p>				
<p>2.NBT.B.6 Add up to four two-digit numbers using properties of operations and strategies based on place value.</p>				
<p>2.NBT.C.7 Add and subtract within 1000 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used.</p>				
<p>2.NBT.C.8 Mentally add or subtract 10 or 100 to/from any given number within 1000.</p>				
<p>2.MD.A.2 Measure the length of an object using two different whole number units of measure and <i>describe how the two measurements relate to the size of the unit chosen.</i></p>				
<p>2.MD.A.3 Estimate lengths using whole number units of inches, feet, yards, centimeters, and meters.</p>				
<p>2.MD.B.6 Represent whole numbers as lengths from 0 on a number line and know that the points corresponding to the numbers on the number line are equally spaced. Use a number line to represent whole number sums and differences of lengths within 100.</p>				
<p>2.G.A.3 Partition circles and rectangles into two, three, and four equal shares. Describe the shares using the words halves, thirds, fourths, half of, a third of, and a fourth of, and describe the whole as two</p>				

halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.				
Procedural Skill and Fluency: The materials provide intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters	0	1	2	Evidence
2.OA.B.2 Fluently add and subtract within 30 using mental strategies. By the end of 2nd grade, know all sums of two one-digit numbers and related subtraction facts.				
2.NBT.B.5 Fluently add and subtract within 100 using properties of operations, strategies based on place value, and/or the relationship between addition and subtraction.				
2.MD.A.1 Measure the length of an object in whole number units by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.				
2.MD.A.2 <i>Measure the length of an object using two different whole number units of measure</i> and describe how the two measurements relate to the size of the unit chosen.				
2.MD.A.4 Measure, using whole number lengths, to determine how much longer one object is than another and express the difference in terms of a standard unit of length.				
2.MD.C.7 Tell and write time in quarter hours and to the nearest five minutes (in a.m. and p.m.) using analog and digital clocks.				
2.MD.D.9 Given a set of data, create a line plot, where the horizontal scale is marked off in whole-number units.				
2.MD.D.10 <i>Draw a pictograph (with a key of values of 1, 2, 5, or 10) and a bar graph (with intervals of one) to represent a data set with up to four categories.</i> Solve addition and subtraction problems related to the data in a graph.				
2.G.A.1 Identify triangles, quadrilaterals, pentagons, and hexagons. Draw two-dimensional shapes having specified attributes (as determined directly or visually, not by measuring), such as a given number of angles/vertices or a given number of sides of equal length.				
2.G.A.2 Partition a rectangle into rows and columns of same-sized squares and find the total number of squares.				
2.G.A.3 <i>Partition circles and rectangles into two, three, and four equal shares. Describe the shares using the words halves, thirds, fourths, half of, a third of, and</i>				

<i>a fourth of, and describe the whole as two halves, three thirds, four fourths.</i> Recognize that equal shares of identical wholes need not have the same shape.				
Applications: The materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters.	0	1	2	Evidence
2.OA.A.1 Add and subtract within 100 to solve one- and two-step contextual problems, with unknowns in all positions, involving situations of <i>add to, take from, put together/take apart, and compare</i> . Use objects, drawings, and equations with a symbol for the unknown number to represent the problem.				
2.MD.B.5 Add and subtract within 100 to solve contextual problems, with the unknown in any position, involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown to represent the problem.				
2.MD.C.8 Solve contextual problems involving amounts less than one dollar including quarters, dimes, nickels, and pennies using the ¢ symbol appropriately. Solve contextual problems involving whole number dollar amounts up to \$100 using the \$ symbol appropriately.				
2.MD.D.10 Draw a pictograph (with a key of values of 1, 2, 5, or 10) and a bar graph (with intervals of one) to represent a data set with up to four categories. <i>Solve addition and subtraction problems related to the data in a graph.</i>				
			Total	

Appendix

Version 1

Application Questions Scoring Rubric: 3-5

Applicant:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has made multiple, relevant experiences evaluating and selecting instructional materials	
Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.	The applicant identifies only one component with justification <i>or</i> multiple components with no justification	The applicant identifies multiple components and provides detailed evidence to justify their choices	The applicant identifies multiple components and provides detailed evidence to justify choices, and includes both teacher- and student-related components	
Consider the following Tennessee mathematics standard: : <i>4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models..</i> What would effective instruction for this standard look like and sound like? How would a high-quality	The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM. OR The applicant only explains what the standard means.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard. OR The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and the student or why this lesson is effective.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).	

material support the teacher as he/she works with students?				
Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a 3 rd grade, 4 th grade or 5 th grade standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.	<p>The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components.</p> <p>AND/OR</p> <p>The applicant only provides a standard for each aspect of rigor without providing justification of their choices.</p>	<p>The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with explanations for their choices.</p>	<p>The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.</p>	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Scoring Task	The applicant matched the exemplar scoring on the rubric for less than 49 of the 65 indicators. (75.4%)	The applicant matched the exemplar scoring on the rubric for at least 55 of the 65 indicators. (84.6%)	The applicant matched the exemplar scoring on the rubric for at least 60 of the 65 indicators. (92.3%)	
Total				

Version 2

Application Questions Scoring Rubric: 3-5

Applicant:

Part 1:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has made multiple, relevant experiences evaluating and selecting instructional materials	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Total				

Part 2:

Question	0	3	5	Applicant's Score
Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.	The applicant identifies only one component with justification <i>or</i> multiple components with no justification	The applicant identifies multiple components and provides detailed evidence to justify their choices	The applicant identifies multiple components and provides detailed evidence to justify choices, and includes both teacher- and student-related components	

<p>Consider the following Tennessee mathematics standard: <i>4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</i> What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM.</p> <p>OR</p> <p>The applicant only explains what the standard means.</p>	<p>The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard.</p> <p>OR</p> <p>The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and the student or why this lesson is effective.</p>	<p>The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).</p>	
<p>Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a 3rd grade, 4th grade or 5th grade standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.</p>	<p>The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components.</p> <p>AND/OR</p> <p>The applicant only provides a standard for each aspect of rigor without providing justification of their choices.</p>	<p>The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with explanations for their choices.</p>	<p>The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.</p>	
<p>Scoring Task</p>	<p>The applicant matched the exemplar scoring on the rubric for less than 49 of the 65 indicators. (75.4%)</p>	<p>The applicant matched the exemplar scoring on the rubric for at least 55 of the 65 indicators. (84.6%)</p>	<p>The applicant matched the exemplar scoring on the rubric for at least 60 of the 65 indicators. (92.3%)</p>	
Total				<p>X2=</p>

Grade 4 Mathematics Instructional Materials Scoring Rubric

Introduction:

The following Instructional Materials Scoring Rubric for Mathematics is designed to score materials in the following categories:

- Instructional Focus
- Math Practices
- Aspects of Rigor
- Accessibility Features

Scoring:

Each section is to be scored using a 0, 1, or 2. For all sections, except for Rigor, use the following rubric when deciding on the appropriate rating:

- 0: The metric is not present within the material.
- 1: The metric is present within the material. The intent and/or frequency component of the metric is not fully met.
- 2: A rating of 2 indicates the metric is present and all aspects of the metric are fully met.

For Rigor:

- 0: The standard is not instructionally present within the material.
- 1: The standard is instructionally present but does not have an instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards may include multiple types of rigor. When scoring, the relevant part of the standard is identified by a bold, italics, larger font. If a portion of a standard is in a bold, italics, larger font, score only that part of the standard for alignment to the indicated aspect of rigor.
- 2: The standard is instructionally present and has a clear instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards that cross multiple types of rigor are indicated by highlighting. The highlighted portion of the standard is the part of the standard to be focused on for the indicated aspect of rigor.

Grade 4 Mathematics Instructional Materials Scoring Rubric

Gateway: The publisher must provide a Tennessee standards alignment guide as a part of the scope and sequence for the material. If this gateway is not met, the materials will not be scored.

Instructional Focus				
	0	1	2	Evidence
Connections to content from prior grades are clearly identified and explicitly related to grade-level work.		✓		
Materials embed a minimum of 3 tasks in every unit. Each task has multiple entry-points and can be solved using a minimum of 2 solution strategies and/or representations.			✓	
Materials give students opportunities to work problems within each lesson. Each problem set: <ul style="list-style-type: none"> • Covers the full breadth of the standard(s) covered in the lesson • Is aligned to on grade level expectations as identified in the standard(s) 			✓	
Teacher resources indicate common student misconceptions in every unit and provide guidance on how to instructionally address the identified misconceptions.			✓	
Materials provide educative supports (e.g., adult level explanations of the standards) in every lesson for teachers to ensure standards are taught accurately and to the appropriate level of rigor (i.e., conceptual understanding, procedural fluency, and application) as indicated by the standards.			✓	
Materials develop student understanding of multiple representations (i.e., concrete, representational, abstract) for relevant standards which are identified in the state's Instructional Focus Documents.			✓	
Materials include problems and activities in every unit that connect two or more grade level standards in a domain (e.g., 4.OA.A.1 and 2.OA.A.2).			✓	
Materials include problems and activities in every unit that connect two or more grade level domains. (e.g., 4.MD.A.2 and 4.OA.A.3)			✓	
Materials provide opportunities for students to participate in a spiraled review in every unit.				This does not apply for the application exercise.
Total				15

Mathematical Practices

Grade 4 Mathematics Instructional Materials Scoring Rubric

Math Practices/Literacy Skills for Math Proficiency	0	1	2	Evidence
Materials embed the eight math practice standards in every unit.			✓	
Math practice standards are clearly identified in both teacher and student materials.		✓		
Materials use appropriate math vocabulary which is aligned to the grade level standards.			✓	
Materials support students in discussing and articulating mathematical ideas. Within each lesson students either write or verbally justify their thoughts.			✓	
Total				7

Aspects of Rigor				
Conceptual Understanding: The materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters.	0	1	2	Evidence
4.OA.A.1 Interpret a multiplication equation as a comparison. Represent verbal/written statements of multiplicative comparisons as multiplication equations.	✓			
4.OA.A.3 Solve multi-step contextual problems (posed with whole numbers and having whole-number answers using the four operations) including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity.	✓			
4.OA.B.4 Find factor pairs for whole numbers in the range 1–100 using models. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number is prime or composite and whether the given number is a multiple of a given one-digit number.	✓			
4.OA.C.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.	✓			
4.NBT.A.1 Recognize that in a multi-digit whole number (less than or equal to 1,000,000), a digit in one place represents 10 times as much as it represents in the place to its right.	✓			
4.NBT.A.2 Read and write multi-digit whole numbers (less than or equal to 1,000,000) using standard form, word form, and expanded. Compare two multi-digit numbers based on	✓			

Grade 4 Mathematics Instructional Materials Scoring Rubric

<i>meanings of the digits in each place and use the symbols $>$, $=$, and $<$ to show the relationship.</i>				
4.NBT.A.3 Round multi-digit whole numbers to any place (up to and including the hundred-thousand place) <i>using understanding of place value and use a number line to explain how the number was rounded.</i>	✓			
4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. <i>Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</i>	✓			
4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. <i>Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</i>	✓			
4.NF.A.1 <i>Explain why a fraction a/b is equivalent to a fraction $(a \times n)/(b \times n)$ or $(a \div n)/(b \div n)$ using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size.</i> Use this principle to recognize and generate equivalent fractions.			✓	
4.NF.A.2 <i>Compare two fractions with different numerators and different denominators by creating common denominators or common numerators or by comparing to a benchmark such as 0 or $1/2$ or 1. Recognize that comparisons are valid only when the two fractions refer to the same whole.</i> Use the symbols $>$, $=$, or $<$ to show the relationship and justify the conclusions.			✓	
4.NF.B.3 Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$			✓	
4.NF.B.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.			✓	
4.NF.B.3b Decompose a fraction into a sum of fractions with the same denominator in more than one recording each decomposition by an equation. Justify decompositions using a visual fraction model.			✓	
4.NF.B.4 Apply and extend understanding of multiplication as repeated addition to multiply a whole number by a fraction.			✓	
4.NF.B.4a Understand a fraction a/b as a multiple of $1/b$.			✓	
4.NF.B.4b <i>Understand a multiple of a/b as a multiple of $1/b$</i> and use this understanding to multiply a whole number by a fraction.			✓	
4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the			✓	

Grade 4 Mathematics Instructional Materials Scoring Rubric

same whole. Use the symbols $>$, $=$, or $<$ to show the relationship and justify the conclusions.				
4.MD.A.1 Measure and estimate to determine relative sizes of measurement units within a single system of measurement involving length, liquid volume, and mass/weight of objects using customary and metric units.	✓			
4.MD.A.3 Know and apply the area and perimeter formulas for rectangles in real-world and mathematical contexts.	✓			
4.MD.C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint; and understand concepts of angle measurement.	✓			
4.MD.C.5a Understand that an angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle.	✓			
4.MD.C.5b Understand that an angle that turns through $1/360$ of a circle is called a "one-degree angle," and can be used to measure angles. An angle that turns through n one-degree angles is said to have an angle measure of n degrees and represents a fractional portion of the circle.	✓			
4.MD.C.7 <i>Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.</i> Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems.	✓			
4.G.A.3 Recognize and draw lines of symmetry for two-dimensional figures.	✓			
Procedural Skill and Fluency: The materials provide intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters	0	1	2	Evidence
4.OA.B.4 <i>Find factor pairs for whole numbers in the range 1–100 using models.</i> Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number is prime or composite and whether the given number is a multiple of a given one-digit number.	✓			
4.OA.C.5 <i>Generate a number or shape pattern that follows a given rule.</i> Identify apparent features of the pattern that were not explicit in the rule itself.	✓			
4.NBT.A.2 <i>Read and write multi-digit whole numbers (less than or equal to 1,000,000) using standard form, word form, and expanded.</i> Compare two multi-digit numbers based on meanings of the digits in each place and use the symbols $>$, $=$, and $<$ to show the relationship.	✓			
4.NBT.A.3 <i>Round multi-digit whole numbers to any place (up to and including the hundred-thousand place)</i> using understanding of place value and use a number line to explain how the number was rounded.	✓			

Grade 4 Mathematics Instructional Materials Scoring Rubric

4.NBT.B.4 Fluently add and subtract within 1,000,000 using efficient strategies and algorithms.		✓		
4.NBT.B.5 <i>Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations.</i> Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	✓			
4.NBT.B.6 <i>Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.</i> Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	✓			
4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction $(a \times n)/(b \times n)$ or $(a \div n)/(b \div n)$ using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.			✓	
4.NF.B.3c Add and subtract mixed numbers with like denominators by replacing each mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction.			✓	
4.NF.B.4 Apply and extend understanding of multiplication as repeated addition to multiply a whole number by a fraction.			✓	
4.NF.B.4b Understand a multiple of a/b as a multiple of $1/b$ and use this understanding to multiply a whole number by a fraction.			✓	
4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.			✓	
4.NF.C.6 Read and write decimal notation for fractions with denominators 10 or 100. Locate these decimals on a number line.			✓	
4.MD.A.1 Measure and estimate to determine relative sizes of measurement units within a single system of measurement involving length, liquid volume, and mass/weight of objects using customary and metric units.	✓			
4.MD.B.4 <i>Make a line plot to display a data set of measurements in fractions of the same unit ($1/2$ or $1/4$ or $1/8$).</i> Use operations on fractions for this grade to solve problems involving information presented in line plots.			✓	
4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	✓			
4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition	✓			

Grade 4 Mathematics Instructional Materials Scoring Rubric

<i>and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems.</i>				
4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse, straight, reflex), and perpendicular and parallel lines. Identify these in two-dimensional figures.	✓			
4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Classify triangles based on the measure of the angles as right, acute, or obtuse.		✓		
4.G.A.3 Recognize and draw lines of symmetry for two-dimensional figures.	✓			
Applications: The materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters.	0	1	2	Evidence
4.OA.A.2 Multiply or divide to solve contextual problems involving multiplicative comparison, and distinguish multiplicative comparison from additive comparison.	✓			
4.OA.A.3 <i>Solve multi-step contextual problems (posed with whole numbers and having whole-number answers using the four operations) including problems in which remainders must be interpreted.</i> Represent these problems using equations with a letter standing for the unknown quantity.	✓			
4.NF.B.3d Solve contextual problems involving addition and subtraction of fractions referring to the same whole and having like denominators.			✓	
4.NF.4c Solve contextual problems involving multiplication of a whole number by a fraction.			✓	
4.MD.A.2 Solve one- or two-step real-world problems involving whole number measurements (including length, liquid volume, mass/weight, time, and money) with all four operations within a single system of measurement. (Contexts need not include conversions.)	✓			
4.MD.A.3 Know and apply the area and perimeter formulas for rectangles in real-world and mathematical contexts.	✓			
4.MD.B.4 Make a line plot to display a data set of measurements in fractions of the same unit ($\frac{1}{2}$ or $\frac{1}{4}$ or $\frac{1}{8}$). <i>Use operations on fractions for this grade to solve problems involving information presented in line plots.</i>			✓	
4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. <i>Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems.</i>	✓			

Grade 4 Mathematics Instructional Materials Scoring Rubric

Total	39
--------------	-----------

Accessibility Features				
Digital Materials	0	1	2	Evidence
All lessons within the materials are available in digital form and include a printable option.				
In every lesson, materials include recommended supports, accommodations, and modifications for Students with Disabilities and English Language Learners that will support their regular and active participation in accessing on grade level material (e.g., modifying vocabulary words within word problems, sentence starters, etc.).				

DRAFT

Version 1

Application Questions Scoring Rubric: 6-8

Applicant:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has made multiple, relevant experiences evaluating and selecting instructional materials	
Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.	The applicant identifies only one component with justification <i>or</i> multiple components with no justification	The applicant identifies multiple components and provides detailed evidence to justify their choices	The applicant identifies multiple components and provides detailed evidence to justify choices, and includes both teacher- and student-related components	
Consider the following Tennessee mathematics standard: <i>7.SP.D.8d Relate and understand the choice of measures of center (median and/or mean) and variability (range and/or interquartile range) to the shape of the data distribution and the context in which the data were gathered.</i> What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?	The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM. OR The applicant only explains what the standard means.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard. OR The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and the student or why this lesson is effective.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).	

Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a 6 th grade, 7 th grade or 8 th grade standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.	<p>The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components.</p> <p>AND/OR</p> <p>The applicant only provides a standard for each aspect of rigor without providing justification of their choices.</p>	<p>The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with explanations for their choices.</p>	<p>The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.</p>	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Scoring Task	The applicant matched the exemplar scoring on the rubric for less than 75 of the 100 indicators. (75%)	The applicant matched the exemplar scoring on the rubric for at least 85 of the 100 indicators. (85%)	The applicant matched the exemplar scoring on the rubric for at least 93 of the 100 indicators. (93%)	

	Total
--	-------

DRAFT

Version 2

Application Questions Scoring Rubric: 6-8

Applicant:

Part 1:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has made multiple, relevant experiences evaluating and selecting instructional materials	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Total				

Part 2:

Question	0	3	5	Applicant's Score
Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.	The applicant identifies only one component with justification <i>or</i> multiple components with no justification	The applicant identifies multiple components and provides detailed evidence to justify their choices	The applicant identifies multiple components and provides detailed evidence to justify choices, and includes both teacher- and student-related components	

<p>Consider the following Tennessee mathematics standard: <i>7.SP.D.8d Relate and understand the choice of measures of center (median and/or mean) and variability (range and/or interquartile range) to the shape of the data distribution and the context in which the data were gathered.</i> What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM.</p> <p>OR</p> <p>The applicant only explains what the standard means.</p>	<p>The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard.</p> <p>OR</p> <p>The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and the student or why this lesson is effective.</p>	<p>The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).</p>	
<p>Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics. Provide a 6th grade, 7th grade or 8th grade standard that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.</p>	<p>The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components.</p> <p>AND/OR</p> <p>The applicant only provides a standard for each aspect of rigor without providing justification of their choices.</p>	<p>The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with explanations for their choices.</p>	<p>The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.</p>	
<p>Scoring Task</p>	<p>The applicant matched the exemplar scoring on the rubric for less than 75 of the 100 indicators. (75%)</p>	<p>The applicant matched the exemplar scoring on the rubric for at least 85 of the 100 indicators. (85%)</p>	<p>The applicant matched the exemplar scoring on the rubric for at least 93 of the 100 indicators. (93%)</p>	
Total				<p>X2=</p>

Grade 7 Mathematics Instructional Materials Scoring Rubric

Introduction:

The following Instructional Materials Scoring Rubric for Mathematics is designed to score materials in the following categories:

- Instructional Focus
- Math Practices
- Aspects of Rigor
- Accessibility Features

Scoring:

Each section is to be scored using a 0, 1, or 2. For all sections, except for Rigor, use the following rubric when deciding on the appropriate rating:

- 0: The metric is not present within the material.
- 1: The metric is present within the material. The intent and/or frequency component of the metric is not fully met.
- 2: A rating of 2 indicates the metric is present and all aspects of the metric are fully met.

For Rigor:

- 0: The standard is not instructionally present within the material.
- 1: The standard is instructionally present but does not have an instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards may include multiple types of rigor. When scoring, the relevant part of the standard is identified by a bold, italics, larger font. If a portion of a standard is in a bold, italics, larger font, score only that part of the standard for alignment to the indicated aspect of rigor.
- 2: The standard is instructionally present and has a clear instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards that cross multiple types of rigor are indicated by highlighting. The highlighted portion of the standard is the part of the standard to be focused on for the indicated aspect of rigor.

Grade 7 Mathematics Instructional Materials Scoring Rubric

Gateway: The publisher must provide a Tennessee standards alignment guide as a part of the scope and sequence for the material. If this gateway is not met, the materials will not be scored.

Instructional Focus				
	0	1	2	Evidence
Connections to content from prior grades are clearly identified and explicitly related to grade-level work.		✓		The unit plan provides an explanation of how the lessons connect to prior knowledge and experiences.
Materials embed a minimum of 3 tasks in every unit. Each task has multiple entry-points and can be solved using a minimum of 2 solution strategies and/or representations.		✓		The two provided lessons have stages of tasks within the instructional experience.
Materials give students opportunities to work problems within each lesson. Each problem set: <ul style="list-style-type: none"> • Covers the full breadth of the standard(s) covered in the lesson • Is aligned to on grade level expectations as identified in the standard(s) 			✓	Each Learning experience provides students with different and several opportunities to work problems based upon the targeted standards.
Teacher resources indicate common student misconceptions in every unit and provide guidance on how to instructionally address the identified misconceptions.			✓	Yes, each lesson provides sample student responses and teacher guidance.
Materials provide educative supports (e.g., adult level explanations of the standards) in every lesson for teachers to ensure standards are taught accurately and to the appropriate level of rigor (i.e., conceptual understanding, procedural fluency, and application) as indicated by the standards.			✓	Yes, each lesson provides a teacher guide including goals, common issues, and suggestive differentiation strategies.
Materials develop student understanding of multiple representations (i.e., concrete, representational, abstract) for relevant standards which are identified in the state's Instructional Focus Documents.			✓	Yes, both lessons develop student understanding using multiple representation strategies.
Materials include problems and activities in every unit that connect two or more grade level standards in a domain (e.g., 7.EE.A.1 and 7.EE.A.2).			✓	Yes, both lessons provide at least one connection within a domain for grade level standards.
Materials include problems and activities in every unit that connect two or more grade level domains. (e.g., 7.RP.A.3 and 7.EE.B.3)	✓			There is potential for this in the second lesson depending on how the student approaches the problem.
Materials provide opportunities for students to participate in a spiraled review in every unit.				This does not apply for the application exercise.
Total				12

Grade 7 Mathematics Instructional Materials Scoring Rubric

Mathematical Practices				
Math Practices/Literacy Skills for Math Proficiency	0	1	2	Evidence
Materials embed the eight math practice standards in every unit.			✓	
Math practice standards are clearly identified in both teacher and student materials.		✓		The Math Practices are listed in the introduction materials, but they are not explicitly called out in the lessons themselves.
Materials use appropriate math vocabulary which is aligned to the grade level standards.			✓	
Materials support students in discussing and articulating mathematical ideas. Within each lesson students either write or verbally justify their thoughts.			✓	
Total				7

Aspects of Rigor				
Conceptual Understanding: The materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters.	0	1	2	Evidence
7.RP.A.2 <i>Recognize</i> and represent proportional relationships between quantities .	✓			
7.RP.A.2a <i>Decide whether two quantities are in a proportional relationship</i> (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin).	✓			
7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	✓			
7.RP.A.2c <i>Use the concept of equality</i> to represent proportional relationships with equations. <i>For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.</i>	✓			
7.RP.A.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.	✓			

Grade 7 Mathematics Instructional Materials Scoring Rubric

7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	✓			
7.NS.A.1a Understand $p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.	✓			
7.NS.A.1b Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.	✓			
7.NS.A.1c Apply properties of operations as strategies to add and subtract rational numbers.	✓			
7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	✓			
7.NS.A.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.	✓			
7.NS.A.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.	✓			
7.NS.A.2c Apply properties of operations as strategies to multiply and divide rational numbers.	✓			
7.NS.A.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates or eventually repeats.	✓			
7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	✓			
7.EE.A.2 Rewrite and connect equivalent expressions in different forms in a contextual problem to provide multiples ways of interpreting the problem and investigating how the quantities in it are related. For example, shoes are on sale at a 25% discount. How is the discounted price P related to the original cost C of the shoes? $C - 0.25C = P$. In other words, P is 75% of the original cost since $C - 0.25C$ can be written as $0.75C$.	✓			
7.EE.B.3a Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate.	✓			

Grade 7 Mathematics Instructional Materials Scoring Rubric

7.EE.B.3b Assess the reasonableness of answers using mental computation and	✓			
7.EE.B.4 Use variables to represent quantities in a real-world and mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities .	✓			
7.EE.B.4a Solve real-world and mathematical problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ where p , q , and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?	✓			
7.EE.B.4b Solve real-world and mathematical problems leading to inequalities of the form $px + q > r$, $px + q < r$, $px + q \geq r$, and $px + q \leq r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality on a number line and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.	✓			
7.G.A.2 Draw triangles with given conditions: three angle measures or three side measures. Notice when the conditions determine a unique triangle, more than one triangle, or no triangle.	✓			
7.G.B.3 Know the formulas for the area and circumference of a circle and use them to solve problems. Explore the relationships between the radius, the circumference, and the area of a circle, and the number π.	✓			
7.G.B.4 Know and use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	✓			
7.SP.A.2 Collect and use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.			✓	
7.SP.B.3 Informally compare the measures of center (mean, median, mode) of two numerical data distributions with similar variabilities. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team; on a dot plot or box plot, the separation between the two distributions of heights is noticeable.			✓	
7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a 7th grade			✓	

Grade 7 Mathematics Instructional Materials Scoring Rubric

<i>science book are generally longer than the words in a chapter of a 4th grade science book.</i>				
7.SP.C.5 Recognize that the probability of a chance event is a number between 0 and 1 and interpret the likelihood of the event occurring.	✓			
7.SP.C.6a <i>Approximate the probability of a chance event</i> by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	✓			
7.SP.C.6c Compare theoretical probabilities to experimental probabilities; explain any possible sources of discrepancy. <i>For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.</i>	✓			
7.SP.C.7 <i>Develop a probability model</i> and use it to find experimental or theoretical probabilities of events.	✓			
7.SP.C.7a <i>Use a uniform probability model, with equal probability assigned to all outcomes, to determine probabilities of events.</i> <i>For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.</i>	✓			
7.SP.C.7b <i>Develop a probability model, including non-uniform models, by observing frequencies in data generated from a chance process.</i> Use the model to estimate the probabilities of events. <i>For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?</i>	✓			
7.SP.D.8 <i>Summarize a numerical data set</i> in relation to its context.	✓			
7.SP.D.8a Give quantitative measures of center (median and/or mean) and variability (range and/or interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	✓			
7.SP.D.8b <i>Relate and understand the choice of measures of center (median and/or mean) and variability (range and/or interquartile range) to the shape of the data distribution</i> and the context in which the data were gathered.	✓			
Procedural Skill and Fluency: The materials provide intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters	0	1	2	Evidence
7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. For	✓			

Grade 7 Mathematics Instructional Materials Scoring Rubric

example, if a person walks $\frac{1}{2}$ mile in each 15 minutes, compute the unit rate as the complex fraction $(\frac{1}{2}) / (\frac{1}{4})$ miles per hour, equivalently 2 miles per hour.				
7.RP.A.2 Recognize and represent proportional relationships between quantities .	✓			
7.RP.A.2a Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin).	✓			
7.RP.A.2c Use the concept of equality to represent proportional relationships with equations . For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.	✓			
7.RP.A.3 Use proportional relationships to solve multi-step ratio and percent problems. Examples: batting averages, recipes, simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error, etc.		✓		
7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram .	✓			
7.NS.A.1c Apply properties of operations as strategies to add and subtract rational numbers .	✓			
7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers .	✓			
7.NS.A.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.	✓			
7.NS.A.2c Apply properties of operations as strategies to multiply and divide rational numbers .	✓			
7.NS.A.2d Convert a rational number to a decimal using long division ; know that the decimal form of a rational number terminates or eventually repeats.	✓			
7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers . (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)	✓			
7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients .	✓			
7.EE.A.2 Rewrite and connect equivalent expressions in different forms in a contextual problem to provide multiples ways of interpreting the problem and investigating how the quantities in it are related. For example, shoes are on sale at a 25% discount. How	✓			

Grade 7 Mathematics Instructional Materials Scoring Rubric

is the discounted price P related to the original cost C of the shoes? $C - 0.25C = P$. In other words, P is 75% of the original cost since $C - 0.25C$ can be written as $0.75C$.				
7.EE.B.3 Solve multi-step real-world and mathematical problems posed with positive and negative rational numbers presented in any form (whole numbers, fractions, and decimals).	✓			
7.EE.B.3a Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate.	✓			
7.EE.B.4 Use variables to represent quantities in a real-world and mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	✓			
7.EE.B.4a Solve real-world and mathematical problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i>	✓			
7.EE.B.4b Solve real-world and mathematical problems leading to inequalities of the form $px + q > r$, $px + q < r$, $px + q \geq r$, and $px + q \leq r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality on a number line and interpret it in the context of the problem. <i>For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</i>	✓			
7.G.A.1 Solve problems involving scale drawings of congruent and similar geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	✓			
7.G.A.2 Draw triangles with given conditions: three angle measures or three side measures. Notice when the conditions determine a unique triangle, more than one triangle, or no triangle.	✓			
7.G.B.3 Know the formulas for the area and circumference of a circle and use them to solve problems. Explore the relationships between the radius, the circumference, and the area of a circle, and the number π .	✓			
7.G.B.4 Know and use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	✓			
7.G.B.5 Solve real-world and mathematical problems involving area of two-dimensional figures composed of triangles, quadrilaterals, and polygons, and volume and surface area of three-dimensional objects composed of cubes and right prisms.	✓			

Grade 7 Mathematics Instructional Materials Scoring Rubric

7.SP.A.1 Explore how statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.			✓	
7.SP.A.2 <i>Collect and use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.</i>			✓	
7.SP.C.6 Calculate theoretical and experimental probability of simple events.	✓			
7.SP.C.6a Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	✓			
7.SP.C.6b Calculate the theoretical probability of a simple event.	✓			
7.SP.C.7 Develop a probability model and use it to find experimental or theoretical probabilities of events.	✓			
7.SP.C.7a <i>Use a uniform probability model, with equal probability assigned to all outcomes, to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.</i>	✓			
7.SP.C.7b Develop a probability model, including non-uniform models, by observing frequencies in data generated from a chance process. Use the model to estimate the probabilities of events. <i>For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?</i>	✓			
7.SP.D.8a <i>Give quantitative measures of center (median and/or mean) and variability (range and/or interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</i>	✓			
Applications: The materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters.	0	1	2	Evidence
7.RP.A.3 Use proportional relationships to solve multi-step ratio and percent problems. <i>Examples: batting averages, recipes, simple interest, tax, markups and</i>		✓		

Grade 7 Mathematics Instructional Materials Scoring Rubric

<i>markdowns, gratuities and commissions, fees, percent increase and decrease, percent error, etc.</i>				
7.NS.A.1b Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.	✓			
7.NS.A.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.	✓			
7.NS.A.3 <i>Solve real-world</i> and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)	✓			
7.EE.A.2 Rewrite and connect equivalent expressions in different forms in a contextual problem to provide multiples ways of interpreting the problem and investigating how the quantities in it are related. <i>For example, shoes are on sale at a 25% discount. How is the discounted price P related to the original cost C of the shoes? $C - 0.25C = P$. In other words, P is 75% of the original cost since $C - 0.25C$ can be written as $0.75C$.</i>	✓			
7.EE.B.3 <i>Solve multi-step real-world</i> and mathematical problems posed with positive and negative rational numbers presented in any form (whole numbers, fractions, and decimals).	✓			
7.EE.B.4 <i>Use variables to represent quantities in a real-world</i> and mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	✓			
7.EE.B.4a <i>Solve real-world</i> and mathematical problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i>	✓			
7.EE.B.4b <i>Solve real-world</i> and mathematical problems leading to inequalities of the form $px + q > r$, $px + q < r$, $px + q \geq r$, and $px + q \leq r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality on a number line and interpret it in the context of the problem. <i>For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</i>	✓			
7.G.A.1 Solve problems involving scale drawings of congruent and similar geometric figures , including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	✓			
7.G.B.5 <i>Solve real-world</i> and mathematical problems involving area of two-dimensional figures composed of triangles, quadrilaterals, and polygons, and	✓			

Grade 7 Mathematics Instructional Materials Scoring Rubric

volume and surface area of three-dimensional objects composed of cubes and right prisms.				
7.SP.A.2 Collect and use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.			✓	
7.SP.B.3 Informally compare the measures of center (mean, median, mode) of two numerical data distributions with similar variabilities. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team; on a dot plot or box plot, the separation between the two distributions of heights is noticeable.			✓	
7.SP.C.7 Develop a probability model and use it to find experimental or theoretical probabilities of events.	✓			
7.SP.C.7a Use a uniform probability model, with equal probability assigned to all outcomes, to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.	✓			
7.SP.C.7b Develop a probability model, including non-uniform models, by observing frequencies in data generated from a chance process. Use the model to estimate the probabilities of events. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?	✓			
7.SP.D.8 Summarize a numerical data set in relation to its context.			✓	
7.SP.D.8a Give quantitative measures of center (median and/or mean) and variability (range and/or interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.			✓	
7.SP.D.8b Relate and understand the choice of measures of center (median and/or mean) and variability (range and/or interquartile range) to the shape of the data distribution and the context in which the data were gathered.			✓	
Total				22

Grade 7 Mathematics Instructional Materials Scoring Rubric

Accessibility Features				
Digital Materials	0	1	2	Evidence
All lessons within the materials are available in digital form and include a printable option.				
In every lesson, materials include recommended supports, accommodations, and modifications for Students with Disabilities and English Language Learners that will support their regular and active participation in accessing on grade level material (e.g., modifying vocabulary words within word problems, sentence starters, etc.).				

DRAFT

Algebra One Mathematics Instructional Materials Scoring Rubric

Introduction:

The following Instructional Materials Scoring Rubric for Mathematics is designed to score materials in the following categories:

- Instructional Focus
- Math Practices
- Aspects of Rigor
- Accessibility Features

Scoring:

Each section is to be scored using a 0, 1, or 2. For all sections, except for Rigor, use the following rubric when deciding on the appropriate rating:

- 0: The metric is not present within the material.
- 1: The metric is present within the material. The intent and/or frequency component of the metric is not fully met.
- 2: A rating of 2 indicates the metric is present and all aspects of the metric are fully met.

For Rigor:

- 0: The standard is not instructionally present within the material.
- 1: The standard is instructionally present but does not have an instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards may include multiple types of rigor. When scoring, the relevant part of the standard is identified by a bold, italics, larger font. If a portion of a standard is in a bold, italics, larger font, score only that part of the standard for alignment to the indicated aspect of rigor.
- 2: The standard is instructionally present and has a clear instructional focus on the indicated type of rigor (i.e., Conceptual Understanding, Procedural Fluency, or Application). Standards that cross multiple types of rigor are indicated by highlighting. The highlighted portion of the standard is the part of the standard to be focused on for the indicated aspect of rigor.

Algebra One Mathematics Instructional Materials Scoring Rubric

Gateway: The publisher must provide a Tennessee standards alignment guide as a part of the scope and sequence for the material. If this gateway is not met, the materials will not be scored.

Instructional Focus				
	0	1	2	Evidence
Connections to content from prior grades are clearly identified and explicitly related to grade-level work.		✓		
Materials embed a minimum of 3 tasks in every unit. Each task has multiple entry-points and can be solved using a minimum of 2 solution strategies and/or representations.		✓		
Materials give students opportunities to work problems within each lesson. Each problem set: <ul style="list-style-type: none"> • Covers the full breadth of the standard(s) covered in the lesson • Is aligned to on grade level expectations as identified in the standard(s) 			✓	
Teacher resources indicate common student misconceptions in every unit and provide guidance on how to instructionally address the identified misconceptions.			✓	
Materials provide educative supports (e.g., adult level explanations of the standards) in every lesson for teachers to ensure standards are taught accurately and to the appropriate level of rigor (i.e., conceptual understanding, procedural fluency, and application) as indicated by the standards.			✓	
Materials develop student understanding of multiple representations (i.e., concrete, representational, abstract) for relevant standards which are identified in the state's Instructional Focus Documents.			✓	
Materials include problems and activities in every unit that connect two or more grade level standards in a domain (e.g., A1.S.ID.A.1 and A1.S.ID.A.3).			✓	
Materials include problems and activities in every unit that connect two or more grade level domains. (e.g., A1.F.IF.A.2 and A1.A.REI.D.6)			✓	
Materials provide opportunities for students to participate in a spiraled review in every unit.				This is not applicable for this application exercise.
Total				14

Algebra One Mathematics Instructional Materials Scoring Rubric

Mathematical Practices				
Math Practices/Literacy Skills for Math Proficiency	0	1	2	Evidence
Materials embed the eight math practice standards in every unit.			✓	
Math practice standards are clearly identified in both teacher and student materials.			✓	
Materials use appropriate math vocabulary which is aligned to the grade level standards.			✓	
Materials support students in discussing and articulating mathematical ideas. Within each lesson students either write or verbally justify their thoughts.			✓	
Total				8

Aspects of Rigor				
Conceptual Understanding: The materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters.	0	1	2	Evidence
A1.N.Q.A.1 Use units as a way to understand real-world problems. ★			✓	
A1.N.Q.A.1a Choose and interpret the scale and the origin in graphs and data displays. ★			✓	
A1.N.Q.A.1b <i>Use appropriate quantities in formulas</i> , converting units as necessary. ★			✓	
A1.N.Q.A.1c Define and justify appropriate quantities within a context for the purpose of modeling. ★			✓	
A1.N.Q.A.1d Choose an appropriate level of accuracy when reporting quantities. ★			✓	
A1.A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context. ★			✓	
A1.A.SSE.A.1a Interpret parts of an expression, such as terms, factors, and coefficients.			✓	
A1.A.SSE.A.1b Interpret complicated expressions by viewing one or more of their parts as a single entity.			✓	

Algebra One Mathematics Instructional Materials Scoring Rubric

A1.A.SSE.A.2 <i>Use the structure of an algebraic expression to identify ways to rewrite it.</i>	✓			
A1.A.APR.A.1 Add, subtract, and multiply polynomials. <i>Use these operations to demonstrate that polynomials form a closed system that adhere to the same properties of operations as the integers.</i>	✓			
A1.A.CED.A.1 <i>Create equations and inequalities in one variable</i> and use them to solve problems. ★			✓	
A1.A.CED.A2 <i>Create equations in two variables to represent relationships between quantities</i> and use them to solve problems in a real-world context. Graph equations with two variables on coordinate axes with labels and scales, and <i>use the graphs to make predictions.</i> ★	✓			
A1.A.CED.A.3 <i>Create individual and systems of equations and/or inequalities to represent constraints</i> in a contextual situation, and <i>interpret solutions as viable or non-viable.</i> ★	✓			
A1.A.CED.A.4 Rearrange formulas to isolate a quantity of interest <i>using algebraic reasoning.</i>	✓			
A1.A.REI.A.1 Understand solving equations as a process of reasoning and explain the reasoning. Construct a viable argument to justify a solution method.	✓			
A1.A.REI.B.2a Solve linear equations and inequalities, including compound inequalities, in one variable. <i>Represent solutions algebraically and graphically.</i>	✓			
A1.A.REI.B.2b Solve absolute value equations and inequalities in one variable. <i>Represent solutions algebraically and graphically.</i>	✓			
A1.A.REI.B.3a Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, knowing and applying the quadratic formula, and factoring, as appropriate to the initial form of the equation. <i>Recognize when a quadratic equation has nonreal complex solutions.</i>	✓			
A1.A.REI.B.3b Solve quadratic inequalities <i>using the graph of the related quadratic equation.</i>	✓			
A1.A.REI.C.4 <i>Write</i> and solve <i>a system of linear equations in real-world context.</i> ★	✓			
A1.A.REI.D.5 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	✓			
A1.A.REI.D.6 <i>Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$.</i> Find approximate solutions by graphing the functions or making a table of values, using technology when appropriate. ★	✓			
A1.F.IF.A.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one	✓			

Algebra One Mathematics Instructional Materials Scoring Rubric

element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.				
A1.F.IF.A.2 Use function notation. ★	✓			
A1.F.IF.A.2a <i>Use function notation</i> to evaluate functions for inputs in their domains, including functions of two variables.	✓			
A1.F.IF.A.2b <i>Interpret statements that use function notation</i> in terms of a context.	✓			
A1.F.IF.A.3 Understand geometric formulas as functions. ★	✓			
A1.F.IF.B.4 <i>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities,</i> and sketch graphs showing key features given a verbal description of the relationship. ★	✓			
A1.F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the context of the function it models. ★	✓			
A1.F.IF.B.6 Calculate and <i>interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval.</i> Estimate and interpret <i>the rate of change from a graph.</i> ★	✓			
A1.F.IF.C.7 Graph functions expressed algebraically and <i>show key features of the graph by hand and using technology.</i> ★	✓			
A1.F.IF.C.8 Write a function defined by an expression in different but equivalent forms to <i>reveal and explain different properties of the function.</i> ★			✓	
A1.F.IF.C.8a Rewrite quadratic functions to show zeros, extreme values, and symmetry of the graph, and <i>interpret these in terms of a real-world context.</i>			✓	
A1.F.IF.C.9 Compare properties of functions represented algebraically, graphically, numerically in tables, or by verbal descriptions. ★			✓	
A1.F.IF.C.9a Compare properties of two different functions. Functions may be of different types and/or represented in different ways.	✓			
A1.F.IF.C.9b Compare properties of the same function on two different intervals or represented in two different ways.	✓			
A1.F.BF.A.1 Build a function that <i>describes a relationship between two quantities.</i> ★			✓	
A1.F.BF.A.1a <i>Determine steps</i> for calculation, <i>a recursive process, or an explicit expression from a context.</i>			✓	

Algebra One Mathematics Instructional Materials Scoring Rubric

A1.F.BF.B.2 <i>Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given graphs.</i>	✓			
A1.F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.			✓	
A1.F.LE.A.1a Know that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.			✓	
A1.F.LE.A.1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.			✓	
A1.F.LE.A.1c Recognize situations in which a quantity grows or decays by a constant factor per unit interval relative to another.			✓	
A1.F.LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a table, a description of a relationship, or input-output pairs.		✓		
A1.F.LE.B.3 <i>Interpret the parameters in a linear or exponential function</i> in terms of a context. ★			✓	
A.S.ID.A.2 Use statistics appropriate to the shape of the data distribution to <i>compare center (mean, median, and/or mode) and spread (range, interquartile range) of two or more different data sets.</i> ★	✓			
A1.S.ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points. ★	✓			
A1.S.ID.B.4 Represent data from two quantitative variables on a scatter plot, and <i>describe how the variables are related.</i> Fit a function to the data; use functions fitted to data to solve problems in the context of the data. ★	✓			
A1.S.ID.C.5 <i>Interpret the rate of change and the constant term of a linear model</i> in the context of data. ★	✓			
A1.S.ID.C.6 Use technology to compute the correlation coefficient of a linear model; <i>interpret the correlation coefficient in the context of the data.</i> ★	✓			
A1.S.ID.C.7 Explain the differences between correlation and causation. Recognize situations where an additional factor may be impacting correlated data. ★	✓			
Procedural Skill and Fluency: The materials provide intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters	0	1	2	Evidence
A1.N.Q.A.1b Use appropriate quantities in formulas, <i>converting units as necessary.</i> ★			✓	

Algebra One Mathematics Instructional Materials Scoring Rubric

A1.A.SSE.A.2 Use the structure of an algebraic expression to identify ways to rewrite it .	✓			
A1.A.APR.A.1 <i>Add, subtract, and multiply polynomials.</i> Use these operations to demonstrate that polynomials form a closed system that adhere to the same properties of operations as the integers.	✓			
A1.A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. ★			✓	
A1.A.CED.A.2 Create equations in two variables to represent relationships between quantities and use them to solve problems in a real-world context. Graph equations with two variables on coordinate axes with labels and scales, and use the graphs to make predictions. ★	✓			
AX1.A.CED.A.4 <i>Rearrange formulas to isolate a quantity of interest</i> using algebraic reasoning.	✓			
A1.A.REI.B.2 Solve linear and absolute value equations and inequalities in one variable	✓			
A1.A.REI.B.2a <i>Solve linear equations and inequalities, including compound inequalities, in one variable.</i> Represent solutions algebraically and graphically.	✓			
A1.A.REI.B.2b <i>Solve absolute value equations and inequalities in one variable.</i> Represent solutions algebraically and graphically.	✓			
A1.REI.B.3 Solve quadratic equations and inequalities in one variable.	✓			
A1.A.REI.B.3a <i>Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, knowing and applying the quadratic formula, and factoring, as appropriate to the initial form of the equation.</i> Recognize when a quadratic equation has nonreal complex solutions.	✓			
A1.A.REI.B.3b <i>Solve quadratic inequalities</i> using the graph of the related quadratic equation.	✓			
A1.A.REI.C.4 Write and solve a system of linear equations in real-world context. ★	✓			
A1.A.REI.D.6 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$. Find approximate solutions by graphing the functions or making a table of values, using technology when appropriate. ★	✓			
A1.REI.D.7 Graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	✓			
A1.F.IF.A.2a Use function notation to evaluate functions for inputs in their domains, including functions of two variables.	✓			

Algebra One Mathematics Instructional Materials Scoring Rubric

A1.F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and <i>sketch graphs showing key features given a verbal description of the relationship.</i> ★	✓			
A1.F.IF.B.6 Calculate and interpret <i>the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate and interpret the rate of change from a graph.</i> ★	✓			
A1.F.IF.C.7 Graph functions expressed algebraically and show key features of the graph by hand and using technology. ★	✓			
A1.F.IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. ★			✓	
A1.F.IF.C.8a Rewrite quadratic functions to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a real-world context.			✓	
A1.F.BF.A.1 Build a function that describes a relationship between two quantities. ★			✓	
A1.F.BF.A.1a Determine steps for calculation, a recursive process, or an explicit expression from a context.			✓	
A1.F.BF.B.2 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); <i>find the value of k given graphs.</i>	✓			
A1.F.LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a table, a description of a relationship, or input-output pairs.			✓	
A1.S.ID.A.1 Use measures of center to solve real-world and mathematical problems. ★	✓			
A.S.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (mean, median, and/or mode) and spread (range, interquartile range) of two or more different data sets. ★	✓			
A1.S.ID.B.4 Represent data from two quantitative variables on a scatter plot, and describe how the variables are related. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. ★	✓			
A1.S.ID.C.6 Use technology to compute the correlation coefficient of a linear model; interpret the correlation coefficient in the context of the data. ★	✓			
Applications: The materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters.	0	1	2	Evidence
A1.N.Q.A.1 Use units as a way to understand real-world problems. ★			✓	

Algebra One Mathematics Instructional Materials Scoring Rubric

A1.N.Q.A.1a Choose and interpret the scale and the origin in graphs and data displays. ★			✓	
A1.N.Q.A.1b Use appropriate quantities in formulas, converting units as necessary. ★			✓	
A1.N.Q.A.1c Define and justify appropriate quantities within a context for the purpose of modeling. ★			✓	
A1.N.Q.A.1d Choose an appropriate level of accuracy when reporting quantities. ★			✓	
A1.A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context. ★			✓	
A1.A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. ★			✓	
A1.A.CED.A.2 Create equations in two variables to represent relationships between quantities and use them to solve problems in a real-world context. Graph equations with two variables on coordinate axes with labels and scales, and use the graphs to make predictions. ★	✓			
A1.A.CED.A.3 Create individual and systems of equations and/or inequalities to represent constraints in a contextual situation, and interpret solutions as viable or non-viable. ★	✓			
A1.A.REI.C.4 Write and solve a system of linear equations in <i>real-world context</i> . ★	✓			
A1.A.REI.D.6 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$. <i>Find approximate solutions by graphing the functions or making a table of values, using technology when appropriate.</i> ★	✓			
A1.F.IF.A.2 Use function notation. ★	✓			
A1.F.IF.A.2b Interpret statements that use function notation <i>in terms of a context</i> .	✓			
A1.F.IF.A.3 Understand geometric formulas as functions. ★	✓			
A1.F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. ★	✓			
A1.F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the context of the function it models. ★	✓			

Algebra One Mathematics Instructional Materials Scoring Rubric

A1.F.IF.B.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate and interpret the rate of change from a graph. ★	✓			
A1.F.IF.C.7 Graph functions expressed algebraically and show key features of the graph by hand and using technology. ★	✓			
A1.F.IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. ★			✓	
A1.F.IF.C.8a Rewrite quadratic functions to show zeros, extreme values, and symmetry of the graph, and interpret these <i>in terms of a real-world context</i> . ★			✓	
A1.F.IF.C.9 Compare properties of functions represented algebraically, graphically, numerically in tables, or by verbal descriptions. ★			✓	
A1.F.BF.A.1 Build a function that describes a relationship between two quantities. ★			✓	
A1.F.BF.A.1a Determine steps for calculation, a recursive process, or an explicit expression <i>from a context</i> . ★			✓	
A1.F.LE.B.3 Interpret the parameters in a linear or exponential function <i>in terms of a context</i> . ★			✓	
A1.S.ID.A.1 <i>Use measures of center to solve real-world</i> and mathematical problems. ★	✓			
A.S.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (mean, median, and/or mode) and spread (range, interquartile range) of two or more different data sets. ★	✓			
A1.S.ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points. ★	✓			
A1.S.ID.B.4 Represent data from two quantitative variables on a scatter plot, and describe how the variables are related. Fit a function to the data; use functions fitted to data to solve problems <i>in the context of the data</i> . ★	✓			
A1.S.ID.C.5 Interpret the rate of change and the constant term of a linear model <i>in the context of data</i> . ★	✓			
A1.S.ID.C.6 Use technology to compute the correlation coefficient of a linear model; interpret the correlation coefficient <i>in the context of the data</i> . ★	✓			
A1.S.ID.C.7 Explain the differences between correlation and causation. Recognize situations where an additional factor may be impacting correlated data. ★	✓			
Total				79

Algebra One Mathematics Instructional Materials Scoring Rubric

Accessibility Features				
Digital Materials	0	1	2	Evidence
All lessons within the materials are available in digital form and include a printable option.				
In every lesson, materials include recommended supports, accommodations, and modifications for Students with Disabilities and English Language Learners that will support their regular and active participation in accessing on grade level material (e.g., modifying vocabulary words within word problems, sentence starters, etc.).				

DRAFT

Version 2

Application Questions Scoring Rubric: High School

Applicant:

Part 1:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has made multiple, relevant experiences evaluating and selecting instructional materials	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Total				

Part 2:

Question	0	3	5	Applicant's Score
Describe the most important components that should be reviewed when looking at mathematics materials for a	The applicant identifies only one component with justification <i>or</i> multiple components with no justification	The applicant identifies multiple components and provides detailed evidence to justify their choices	The applicant identifies multiple components and provides detailed evidence to justify choices, and includes both	

statewide adoption. Provide justification in your response.			teacher- and student-related components	
<p>Consider the following Tennessee mathematics standard: <i>A1.F.IF.C.9a / M1.F.IF.C.6a Compare properties of two different functions. Functions may be of different types and/or represented in different ways. {Scope and Clarification: Functions may or may not have a real-world context. Tasks are limited to linear functions and exponential functions with integer exponents.}</i>What would effective instruction for this standard look like and sound like? How would a high-quality material support the teacher as he/she works with students?</p>	<p>The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM.</p> <p>OR</p> <p>The applicant only explains what the standard means.</p>	<p>The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard.</p> <p>OR</p> <p>The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and the student or why this lesson is effective.</p>	<p>The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).</p>	
<p>Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics Provide a standard from one of the following courses: Algebra 1, Geometry, Algebra 2, IM1, IM2, or IM3, that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.</p>	<p>The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components.</p> <p>AND/OR</p> <p>The applicant only provides a standard for each aspect of rigor without providing justification of their choices.</p>	<p>The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with explanations for their choices.</p>	<p>The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.</p>	
<p>Scoring Task</p>	<p>The applicant matched the exemplar scoring on the rubric for less than 93 of the 123 indicators. (75.6%)</p>	<p>The applicant matched the exemplar scoring on the rubric for at least 105 of the 123 indicators. (85.3%)</p>	<p>The applicant matched the exemplar scoring on the rubric for at least 115 of the 123 indicators. (93.4%)</p>	
Total				

DRAFT

Version 1

Application Questions Scoring Rubric: High School

Applicant:

Question	0	3	5	Applicant's Score
What state-level committees have you served on in the past?	The applicant has not served on a state level committee	The applicant has served on 1-2 state level committees	The applicant has served on 3 or more state level committees	
What district level committees have you served on in the past?	The applicant has not served on a district level committee	The applicant has served on 1-2 district level committees	The applicant has served on 3 or more district level committees	
Have you reviewed instructional materials in the past? Please include the content area reviewed, when you reviewed materials, the process used, and for whom you reviewed materials.	The applicant has no experience evaluating or selecting instructional materials	The applicant has limited experience evaluating and selecting instructional materials	The applicant has made multiple, relevant experiences evaluating and selecting instructional materials	
Describe the most important components that should be reviewed when looking at mathematics materials for a statewide adoption. Provide justification in your response.	The applicant identifies only one component with justification <i>or</i> multiple components with no justification	The applicant identifies multiple components and provides detailed evidence to justify their choices	The applicant identifies multiple components and provides detailed evidence to justify choices, and includes both teacher- and student-related components	
Consider the following Tennessee mathematics standard: <i>A1.F.IF.C.9a / M1.F.IF.C.6a Compare properties of two different functions. Functions may be of different types and/or represented in different ways. {Scope and Clarification: Functions may or may not have a real-world context. Tasks are limited to linear functions and exponential functions with integer exponents.}</i> What would effective instruction for this standard look like and sound like? How would a high-quality	The applicant provides a vague description of effective instruction with no connection to the specified standard or HQIM. OR The applicant only explains what the standard means.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student with specific examples without connection to the specified standard. OR The applicant provides a sample instructional activity with no justification to support how HQIM supports the teacher and the student or why this lesson is effective.	The applicant clearly describes effective instruction and how HQIM supports the teacher and the student <i>with</i> specific examples with connection to the specified standard (applicant may or may not include a sample instructional activity).	

material support the teacher as he/she works with students?				
Describe the similarities and differences between conceptual understanding, procedural skill, and application as they apply to teaching mathematics Provide a standard from one of the following courses: Algebra 1, Geometry, Algebra 2, IM1, IM2, or IM3, that develops conceptual understanding for students, one that develops procedural skill for students, and one that provides the opportunity for students to use application. Include an explanation as to why you chose each.	<p>The applicant provides a definition of conceptual understanding, procedural skill, and application without explaining the relationship between the components.</p> <p>AND/OR</p> <p>The applicant only provides a standard for each aspect of rigor without providing justification of their choices.</p>	<p>The applicant provides a description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with explanations for their choices.</p>	<p>The applicant provides a detailed description of the relationships between conceptual understanding, procedural skill, and application as they apply to teaching mathematics.</p> <p>AND</p> <p>The applicant provides sample standards for each aspect of rigor with detailed explanations for their choices.</p>	
Why do you want to serve on this committee?	The applicant does not provide concrete reasons why they wish to serve.	The applicant provides concrete reasons why they wish to serve which indicates a desire to support either their home district or the state as a whole in their response but does not address both.	The applicant provides concrete and actionable reasons which indicate a desire to support their home district as well as the state as a whole in their response.	
Professional Communication	The responses provided inconsistently communicate the applicant's ideas and have significant grammatical errors.	The responses provided clearly communicate the applicant's ideas and have minimal grammatical errors.	The responses provided clearly communicate the applicant's ideas and have limited grammatical errors.	
Scoring Task	The applicant matched the exemplar scoring on the rubric for less than 93 of the 123 indicators. (75.6%)	The applicant matched the exemplar scoring on the rubric for at least 105 of the 123 indicators. (85.3%)	The applicant matched the exemplar scoring on the rubric for at least 115 of the 123 indicators. (93.4%)	

	Total
--	-------

DRAFT