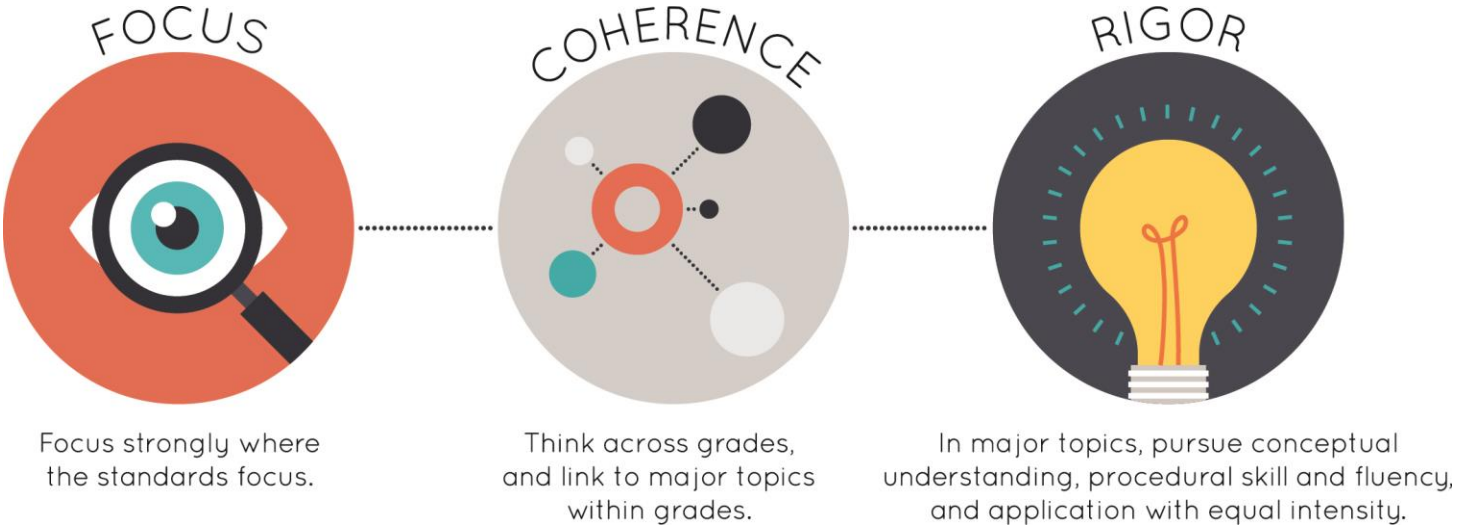
Instructional Materials Evaluation Review for Alignment in Mathematics Grades K – 12 (IMET)

FULL CURRICULUM
Instructional Materials

Strong mathematics instruction contains the following elements:



Title: **Achievement First Math**

Grade/Course: **K-4**

Publisher: **Achievement First**

Copyright: **2019**

Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Alignment Criteria for Standards for Mathematical Practice	
7. Indicators of Quality	

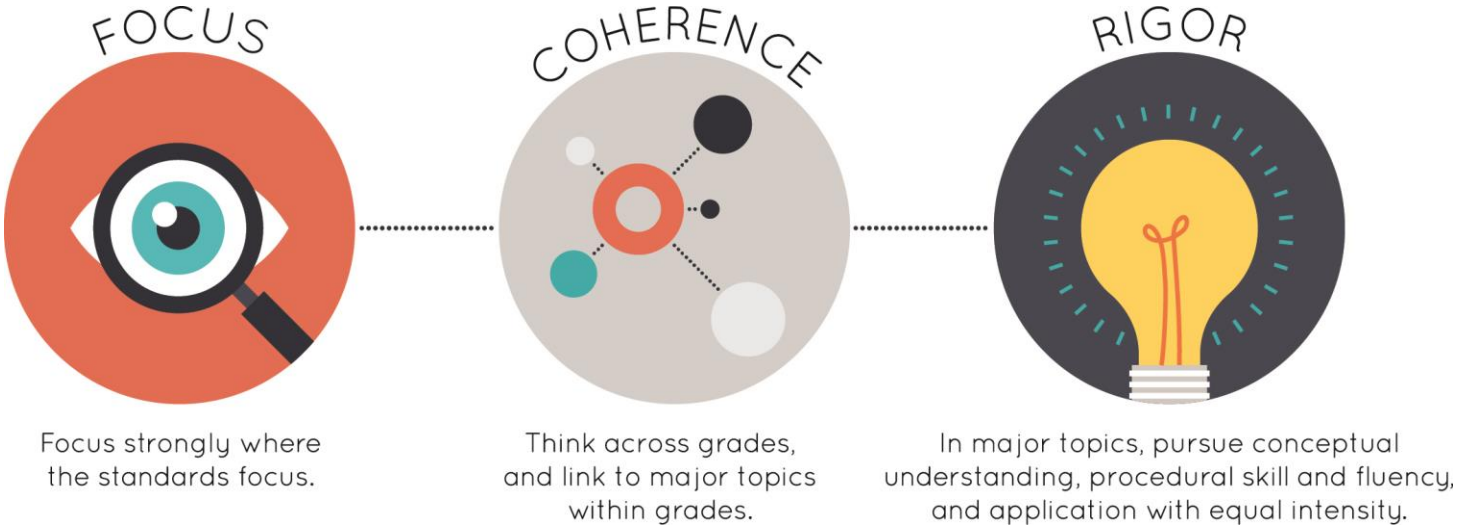
Each set of submitted materials was evaluated for alignment with the standards beginning with a review of the indicators for the non-negotiable criteria. If those criteria were met, a review of the other criteria ensued.

Tier 1 ratings receive a "Yes" in Column 1 for Criteria 1 – 7.
Tier 2 ratings receive a "Yes" in Column 1 for all non-negotiable criteria, but at least one "No" for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

Click below for complete grade-level reviews:

Grade K (Tier 1) Grade 1 (Tier 1) Grade 2 (Tier 1) Grade 3 (Tier 1) Grade 4 (Tier 1)

Strong mathematics instruction contains the following elements:



Title: **Achievement First Math**

Grade/Course: **K**

Publisher: **Achievement First**

Copyright: **2019**

Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Alignment Criteria for Standards for Mathematical Practice	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality **Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.**			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials should devote the large majority of class time to the major work of each grade/course. Each grade/course must meet the criterion; do not average across two or more grades.	**Yes**	Materials devote a large majority of time to major work of the grade. Of the 155 instructional lessons, 79% are spent on major work of the grade. Specifically, 72% on major standards alone, 7% are spent on a combination of major and supporting/additional standards, 10% are spent on supporting and additional standards, and 11% are spent on enrichment lessons.
	Required **1b)** In any one grade/course, instructional materials should spend minimal time on content outside of the appropriate grade/course. Previous grade/course content should be used only for scaffolding instruction. In assessment materials, there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.	**Yes**	Materials spend the appropriate amount of time on grade-level work, while assessing grade-level standards. The assessment components do not make students or teachers responsible for topics before the grade level in which they are introduced. The instructional material includes a Fluency and Practice Workbook that allows teachers the opportunity to view student understanding based on the work in the book. The Fluency Workbook includes the fluency standards of the grade level. Materials include a guide to implementing the curriculum. The Implementation Guide has a breakdown of the lessons for each unit, daily schedules that include estimated time to

[2] For more on the major work of the grade, see Focus by Grade Level.

[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

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			spend on grade level fluency and the lesson. The guide provides indicators for each lesson and includes remediation lessons, enrichment lessons, and on-grade-level lessons. The majority of the lessons are on grade-level and assessments focus on grade-level standards. The forms of assessments in the curriculum include Exit Tickets for most lessons, Task questions, and End of Unit Assessments. In Unit 3, Lesson 27 Exit Ticket, students help baby bear get home by counting from 10 to 1 on a game board (LSSM K.CC.A.1; K.CC.A.3). In Unit 6, End of Unit Assessment, students represent addition and subtraction with objects, fingers, mental images, drawings, solve addition and subtraction word problems, add and subtract within and 10 by using objects or drawings to represent the problem, and fluently add and subtract within 5 (LSSM K.OA.A.1, K.OA.A.2, K.OA.A.5). Unit 1, Lesson 1, focuses on routines in the math classroom such as learning how to share materials with their classmates and how to handle math manipulatives; however, Unit 1, Lesson 1 is a remediation lesson and teachers have the opportunity to skip the lesson if the lesson is not needed to reinforce skills. The latter half of Unit 8 and all of Unit 9 focus on enrichment lessons. Enrichment lessons are noted as optional. The lessons address above grade-level standards and

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			some grade-level standards. The Unit 8 Assessment assesses LSSM 1.NBT.2; however, the implementation guide calls out that items 4-7 are aligned to G1 and are, therefore, optional. Unit 9 does not include a unit assessment.
Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and consistent with the content in the Standards. ☒ Yes ☐ No	**Required** **2a)** Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year for the majority of the time. In Kindergarten, there are 3 supporting clusters, LSSM K.MD.B, K.MD.C, and K.G.B. In Unit 1, Counting and Sorting, Lesson 11, students sort by count by noticing how many objects are in a group and putting groups with the same quantity together connecting supporting LSSM K.MD.B.3 to major LSSM K.CC.A.1, K.CC.A.3, K.CC.B.5a, and K.CC.B.5b. Prior to this lesson, students group objects based on attributes such as color, shape, and size in Lessons 1-5. Then students build a foundation of counting numbers in Lessons 6-10. Finally, in Lesson 11, students sort objects by count. In the lesson, students engage in a treasure chest game in which they sort objects into treasure chests labeled 1-6. Students use items in a bag and put objects in a treasure chest based on how many of the items they have. Once students develop major work of counting numbers in Unit 1, students focus on geometry in Unit 2. The unit addresses skills related to the major content of the

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			grade as students classify shapes by counting sides and corners. For example, in Lesson 2, students identify and create shapes by counting the number of sides and corners connecting supporting LSSM K.G.B5 to major LSSM K.CC.A.1. During the lesson, students choose a block and then identify the block by counting its sides and corners. The students then build the shape using a geoboard. In Lesson 8, students compare two- and three-dimensional shapes by counting sides and corners connecting supporting LSSM K.G.B.4 to major LSSM K.CC.A.1. During the lesson, students choose a solid shape and then name the shape. Students defend their answer by counting the sides and corners to help identify the shapes. However, in Unit 4, Measurement, Lessons 11-13 focus on supporting LSSM K.MD.B.3 and K.MD.C.4 but do not connect back to major work of the grade. Students identify coins based on their attributes but do not count or compare coins in any of the lessons.
	Required **2b)** Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade/course, in cases where these connections are natural and important.	**Yes**	Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade-level where these connections are natural and important. Unit 1 connects clusters A (Know number names and count the sequence) and B (Count to tell the number of objects) of the Counting and Cardinality (CC) domain. Throughout the lessons in the unit, the

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			clusters are connected as students build a foundation for counting. For example, in Unit 1 Lesson 6, students count objects up to 6 within a bag using strategies such as Move and Count and Organize and Count in order to keep track of the objects counted and to get an accurate count (LSSM K.CC.A.1, K.CC.B.4). Students then record the total number of objects (LSSM K.CC.A.3). This connection is evidenced again in Unit 3, Lesson 6. In the activity, students count objects up to 14. (LSSM K.CC.A.1) using strategies such as move and count, organize into lines or rows, and organize into groups. Students find the total number of objects (LSSM K.CC.B.4-5) and record the numeral (LSSM K.CC.A.3). In Unit 9, Lesson 1, connects the Operations and Algebraic Thinking (OA) domain to the Counting and Cardinality (CC) domain. During the lesson, students answer the following problem, “Mrs. Ling is getting her room ready for the Art Club. There are ten students in the Art club. Mrs. Ling puts one chair on each side of a square table. Mrs. Ling puts one chair on each side of another square table. Does Mrs. Ling have enough chairs for all ten students in the Art Club? Show and tell how you know.” Students first recognize that a square has four sides so four chairs are at each table. Students then add the amounts to determine the total number of chairs (LSSM K.OA.A.2). Finally, students

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			compare the number of chairs with the number of students to determine whether there are enough chairs (LSSM K.CC.C.7).
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	**Required** **3a)** ***Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for explicitly in specific content standards or cluster headings by amply featuring high-quality conceptual problems and discussion questions.	**Yes**	Materials develop conceptual understanding of key mathematical concepts for Kindergarten. The materials provide students the opportunity to develop conceptual understanding of key mathematical concepts throughout nine units. In Unit 1, students develop an understanding of numbers and counting by giving a number to each object, counting each object once, keeping track of what was counted and what remains to be counted, and seeing that the last number represents the total number. Students count numbers and write numbers up to ten and answer "how many" questions. By the end of the unit, students learn that each successive number name refers to a quantity that is one more. Students use a variety of strategies to count such as move and count, touch and count, organize and count, and mark and count. In Lessons 1-5, students first sort objects based on attributes (LSSM K.MD.B.3) and then begin counting objects up to 6 in Lesson 6 (LSSM K.CC.A.1). Students choose a strategy to count the objects, such as move and count and organize and count, and answer questions such as "What did you do with the objects before and as you counted? How did you make sure you

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			counted every object one time? How did you know the total was ___?" Students build upon this understanding in Lesson 7 as they create equivalent sets. Students first count the number of pattern blocks in a bag, write the numeral, and then show the same amount using linking cubes. Students who are not sure what number to write are guided to use a number line. Students continue to count up to 6 and sort by count in Lessons 8-14. In Lessons 15-22, students apply this understanding as they count and write numbers up to 10. In Lessons 24 and 25, students use the language "one more" to describe the increasing value of numbers as they count by ones (LSSM K.CC.A.1, K.CC.B.4, K.CC.B.5c). In later units, students continue to build an understanding of counting and cardinality. In Unit 3, Lesson 3, students write numbers 0-20 and represent a number with objects (LSSM K.CC.A.3). For example, students trace and sort objects by shape or color. Students then figure out how many are in each group by counting them. Then students write the number on a recording sheet as an extension to the lesson. In Unit 5, Lesson 1, the student objective is to identify objects/numbers that are greater than, less than, or equal to. The key point for this lesson is having students compare two sets of objects and two numbers to determine which has more and which has

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			less (LSSM K.CC.C.6). The rigor of this standard is completely conceptual, so students are introduced to "comparing vocabulary" (equal, more, greater, taller, longer). Manipulatives such as cubes are used to help build conceptual understanding. Students are also introduced to "comparing terms" to compare objects/numbers associated with the lesson.
	Required **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students attain the fluencies and procedural skills required by the Standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.	**Yes**	Materials are designed so that students attain the fluencies and procedural skills required by the LSSM for Kindergarten. In Kindergarten, students are required to fluently add and subtract within 5 (LSSM K.OA.A.5) by the end of the grade. Multiple opportunities are given in the instructional materials for students to gain mastery of LSSM K.OA.A.5, beginning with Unit 6. Students engage in several lessons in which conceptual understanding of addition and subtraction is developed (LSSM K.OA.A.1). Students then understand and build fluency of adding and subtracting within 5 (LSSM K.OA.A.5) as they continue through the lessons. Throughout the unit, students are provided with opportunities to first add numbers within 5 and then subtract numbers within 5. For example, in Lesson 3, students roll dot cubes, record the numbers, find the total, and then write a number sentence like 2+3=5. In Unit 6, Lesson 10, students begin subtracting numbers within 5 using ten

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			frames, counters, and cubes to solve problems such as 8-5=3 (LSSM.K.OA.A.1). Throughout the unit, students also engage with addition and subtraction word problems within 10 addressing LSSM K.OA.A.2. For Unit 6, the teacher's guide suggests that students complete the Fluency Workbook in order to ensure sufficient practice towards fluency with LSSM K.OA.A.2 in Lessons 1-13, and with LSSM K.OA.A.5 in Lessons 16-17. Additionally, students must master counting to 100 by ones and tens beginning from a given number or in a set (LSSM K.CC.A.1, K.CC.A.2, K.CC.B.5). Students have several opportunities throughout the materials to meet these fluency expectations. By the end of Unit 1, students should be able to rote count to 20 and be able to count a set of 10. Kindergarten fluency standards such as LSSM K.OA.A.2, K.OA.A.5, K.CC.A.1, K.CC.A.2, K.CC.A.3, and K.CC.B.5 are all evident throughout the instructional material and provide opportunities for students to repeatedly practice toward attainment of fluency standards. Unit 1 provides 25 lessons that give students the opportunity to count objects and write numbers within 20. Unit 3 includes 30 lessons that provide students with the opportunity to count to 100 by one and tens, write numbers from 0 to 20, represent a number of objects with a written numeral 0-20, and count forward

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			beginning from a given number. For Unit 3, the teacher's guide suggests that students complete the Fluency Workbook C in order to ensure sufficient practice towards fluency with LSSM K.CC.A.1, K.CC.A.3, and K.CC.B.5.
	Required **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content Standards where expectations for multi-step and real-world problems are explicit.	**Yes**	Materials are designed so that students spend sufficient time working with engaging applications. The materials provide students the opportunity to use strategies they have learned to solve real-world word problems in a meaningful way. The application standard for Kindergarten is LSSM K.OA.A.2. In order for students to master this standard, students must solve addition and subtraction word problems and add and subtract within 10 by using objects or drawings to represent the problem. A majority of the lessons in Unit 6 address LSSM K.OA.A.2. For example, in Lesson 18, students solve story problems by using manipulatives, pictures, or equations such as, "Jayden threw out 4 tissues. Then he threw out 5 scraps of paper. How many pieces of trash did Jayden throw out?" To solve the problem successfully, students decide if they need to add or subtract to find how many pieces of trash Jayden threw out. They represent the problem with a drawing of 4 circles to represent the tissue and 5 squares to represent the scraps of paper. Students write a number sentence to match their drawing to find how many

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			pieces of trash Jayden threw out. Another example is evidenced in Lesson 19 which also focuses on LSSM K.OA.A.2. This lesson includes word problems such as, "There were 7 carrot sticks on Hubina's plate. She ate 3 of them. How many carrot sticks are on her plate?" As students visualize, the teacher uses a pictorial strategy drawing 7 circles and 3 circles (addition) and also 7 circles with 3 of the circles crossed out (subtraction). The teacher also does this with equations. The teacher asks which shows the story, how do the students know, and what makes the other way incorrect.
	Required **3d)** ***Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately. Lessons are designed to be taught in two parts totaling 55 minute blocks: 45 minutes for the Math Lesson and 10 minutes for Math Fluency. Although procedural skill and fluency is developed in many of the lessons, students have frequent opportunities to practice procedural skills and fluency during the Math Fluency portion of the lesson. A large portion of the LSSM for Kindergarten focus solely on the conceptual understanding and procedural skill and fluency components of rigor as students are building an understanding of foundational mathematical skills and beginning to write numbers throughout Kindergarten. The rigor components of

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			LSSM K.OA.A.2 include procedural skill and fluency and application. In Unit 6, there are several lessons that provide students with an opportunity to add and subtract within 10 as well as solve word problems that allow students to represent the problem with a drawing and a number sentence to match. For example, Unit 6, Lesson 21, presents students with a word problem that involves subtracting within 10 to solve word problems (LSSM K.OA.A.2). The problem states, "Sanya had 8 ice cream cones. 6 of them melted. How many ice cream cones does Sanya have now?" Students apply procedure skill and fluency as they choose the operation they must use to solve the real world problem and draw a picture that relates to the problem. In Unit 1, Lesson 7, students understand the relationship between numbers and counting and connect counting to cardinality, addressing the conceptual understanding component of LSSM K.CC.A.4. In the lesson, students use strategies such as move and count, touch and count, and organize and count to accurately count a set of objects up to 6.
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards.	**Required** **4a)** Materials address the practice standards in such a way as to enrich the content standards of the grade/course; practices strengthen the focus on the content standards instead of detracting from them, in both teacher and student materials.	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade. The Unit Overview provides a description for how the practice standards are utilized throughout the unit. Additionally, each lesson lists the practice standards specific

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☒ Yes ☐ No			to that lesson. The practices are utilized in a way to enrich the content standards and not detract from them. For example in Unit 5, Lesson 4, students reason quantitatively (MP.2) when they are given two bags (one with bears and one with counters) and asked to tell which bag has more. Students figure which bag has the greater number by pairing bears to counters until there are no pairs left. Students may also count the bears and counters and know one of the numbers is less than the other (LSSM K.CC.C.6). In the same lesson, students see the numbers written down and circle the number that is more and "x" out the number that is less (MP.7). Unit 1, Lesson 4, focuses on the LSSM K.MD.B.3, K.CC.B.4, and K.CC.B.5. The practice standards included in this lesson require students to construct viable arguments and critique the reasoning of others (MP.3) as well as attend to precision (MP.6). At the end of the lesson, students sort a group of objects by shape and by color and explain how they sorted the objects. Students attend to precision as they sort objects by shape/color and count how many objects are in each group. To demonstrate their understanding, students are also provided the opportunity to explain how they sorted their objects. Student explanations not only demonstrate understanding but lead to students critiquing the reasoning of their peers.

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Section II: Additional Criteria of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No	**Required** **5a)** Materials provide all students extensive work with course-level problems. Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**Yes**	Materials provide students extensive work with grade-level problems. Students solve grade-level problems in all lessons with the exception of the thirteen enrichment lessons that are labeled as optional. Each lesson in the materials are broken into parts such as Introduction, Workshop, Mid-Workshop Interruption, and Discussion/Closure which may or may not include a fluency activity and/or exit ticket. The instructional material connects grade level standards by progressing from learning to count numbers up to 100, write numbers up to 20, and count numbers as tens and one (place value). There are 9 units and each unit provides lessons that include an introduction to the standard being addressed. In the Game Introduction Lessons, the introduction provides students the opportunity to develop their understanding of the lesson through game play. These lessons include Workshops that build on skills/concepts as students begin to develop an understanding of strategies. The problems in the Workshops provide students the opportunity to work with problems in a variety of formats to integrate and extend concepts and skills. Discussions develop students' understanding and exit tickets provide students with an opportunity to show what they have learned as well as provide an opportunity for teachers to assess student work and understanding. For

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			example in Unit 1, Lesson 7, students work with concrete manipulatives to build conceptual understanding of counting objects up to six by creating equivalent sets. Students count pattern blocks, record the number, and then show the same amount with cubes. Students complete the activity with six different numbers. Students continue counting objects up to 6 in Lessons 8-14 using several strategies in order to connect counting to cardinality. In Lesson 8, students count objects, record the number, and then show the same amount with a picture. Students complete the activity several times with the use of a number line, and then without a number line. In Lesson 10, students identify the number on a card (through 6), and either build the number with cubes and draw circles for each object on a ten frame or draw circles on the ten frame as they count. Students repeat this activity for all numbers through 6. In Lesson 14, students roll number cubes, count the dots, and then write the number and repeat the activity with the goal of "just knowing" the amount of dots on the cube (LSSM K.CC.A.3, K.CC.B.4, K.CC.B.5). In Unit 3, Lesson 9, students work on writing and representing numbers 0 to 20 by working on counting and keeping track of the count with objects. In this lesson students practice counting strategies by playing Donut Decoration. In this game, students decorate donuts with manipulatives.

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			Students played this game prior in Unit 1, but only decorated the donuts with up to 10 objects. In this lesson, students work with up to 20 manipulatives and repeat the activity throughout the duration of the lessons (LSSM K.CC.A.1, K.CC.A.3, K.CC.B.5).
	Required **5b)** Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**Yes**	Materials build concepts from each standard to accommodate new knowledge. Concepts are taught in a logical order and maintain progressions consistent with those contained in the standards. In Unit 1, students begin building number sense by sorting and counting objects and writing numerals within 10. In Unit 2, students begin to classify shapes based on attributes such as the numbers of sides, corners, and faces. In Unit 3, students extend their ability to count objects up to ten by counting and writing numerals up to 20. By the end of the unit, students count to 50 by ones and to 100 by tens. In Unit 4, students build upon their understanding of counting and develop number sense as they compare and analyze length, weight, and capacity. In Unit 5, students further develop their ability to count as they record objects to 20, count to 100 by ones, use ordinal numbers as positional words, and compare groups and numbers up to ten to determine which group or number is greater or less than or equal to the other group or number. In Unit 6, students are introduced to addition and subtraction

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			both in and out of the context of story problems. In Unit 7, students deepen their understanding of numbers within 10 and operations of addition. In the unit, students develop fluency with numbers by composing and decomposing numbers within ten and represent various ways to make a total with equations. In Unit 8, students use prior knowledge developed in the previous units to begin to understand the place value of tens and ones. Unit 9, the last unit, is a culminating unit in which students have the opportunity to apply their learning from all units in a variety of task and story problems.
	5c) Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.	**Yes**	Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards. The materials include nine units with multiple lessons that begin by stating the standard cluster in the lesson, listing the standards related to the lesson, as well as the mathematical practice standards used in the lesson. Each lesson has a lesson "Aim" that is shaped by the content standard(s) of the lesson. This is followed by "What Key Points" which is what students should know by the end of the lesson and "How Key Points" which focuses on student understanding needed to achieve mastery of those key points. For example, Unit 8, Lesson 1 begins by stating the cluster addressed in the unit and states "Work with numbers 11-19 to gain foundations for place value" aligning to cluster A of the Number and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Operations in Best Ten (NBT) domain. The standard is then listed and defined. The "Aim" of the lesson states that students will "compose and decompose teen numbers by bundling a group of ten ones and using a strategy that works for them (counting all, count on, just know)" reflecting the language and intent of LSSM K.NBT.A.1. The What Key Points include, "Grouping objects can help us quickly see how many" and "The digits in a two-digit number tell us how many bundles of ten (or ten ones) and loose ones there are." In Unit 5, Lesson 12 begins with stating the cluster of the unit and includes, "Know number names and the count sequence," aligning to cluster A of the Counting and Cardinality (CC) domain. The "Aim" of the lesson is for students to "orally count from 0 to 100 by knowing and using the counting sequence" reflecting the language and intent of LSSM K.CC.A.1. The "How Key Points" include, "We can figure out what comes next when counting by counting in our head" and "If we lose track when we are counting, we can pick up where we left off and don't have to start over at zero."
6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE: Aligned materials make meaningful and purposeful connections that enhance the focus and coherence of the Standards rather than	**Required** **6a)** Materials attend to the full meaning of each practice standard. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of assignments, activities, or problems that stimulate students to	**Yes**	Materials attend to the full meaning of each practice standard. Each Unit Overview outlines the practice standards of the unit and includes when and how the teacher should "intentionally provide students with opportunities to practice" in the unit. The practice standards are also

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
detract from the focus and include additional content/skills to teach which are not included in the Standards. ☒ Yes ☐ No	develop the habits of mind described in the practice standard. Alignments to practice standards are accurate.		listed at the beginning of each lesson in the course material. For example, in Unit 2, according to the Unit 2 Overview, students have the opportunity to utilize MP.1, MP.2, MP.3, MP.5, MP.6, MP.7, and MP.8. More specifically, students utilize MP.1 as they "find ways to manipulate shapes to fill puzzles," MP.2 as they "find ways to manipulate 2D and 3D shapes to compose and decompose other shapes," MP.3 as they "reason about how objects reminded them of 2D and 3D shapes," MP.5 as they "make use of manipulatives in order to learn about and describe attributes of 2D and 3D shapes," MP.6 as they "utilize knowledge of corners and sides and other attributes of shapes to create shapes with geoboards, playdoh, and to draw shapes," MP.7 as they use real world objects to help them make sense of shapes," and MP.8 as they "build an idea that the structure of shapes is used throughout the world." Unit 2, Lesson 1, focuses on identifying and describing shapes and analyzing, comparing, creating, and composing shapes (LSSM K.G.A.3 K.G.B.4). In the lesson, students are asked to identify shapes that are cut out on task cards based on the attributes (MP.2). The teacher then facilitates a discussion around a major misconception. The teacher shows non-examples and related examples and asks questions such as "Which is correct? Why doesn't _____'s work" (MP.3). Another example is in Unit

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			4, Lesson 2, which has students focus on determining which object is longer/shorter or taller/shorter by using a measuring strategy that works for them, such as making the edges match or lining up the objects (LSSM K.MD.A.1, K.MD.A.2). Students attend to precision in this lesson as they draw objects that are longer/taller in one space and shorter in another space (MP.6). Students make viable arguments and critique the reasoning of others during the share/discussion portion of the lesson as the teacher shows the students a non-example and a related example and asks the students "Which is correct? Why doesn't _____ work?" (MP.3). In Unit 2, Lesson 5, students find ways to manipulate shapes to fill puzzles. Students must make sense of the manipulatives and put them together to fill puzzles (MP.1). In Lesson 10, students find ways to manipulate 2D and 3D shapes to compose and decompose other shapes (MP.2). In Unit 8, Lesson 9, students use ten frames to compose and decompose numbers. Students can model the math by drawing pictures of the tens and ones that represent the problem. For example, students are presented with the number 18. Students then model the number and tell how many tens and how many ones (LSSM K.NBT.A.1, MP.4, MP.5).
	Required **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the	**Yes**	Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	arguments of others concerning key grade-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving as a form of argument, attending thoroughly to places in the Standards that explicitly set expectations for multi-step problems.		concerning key Grade K mathematics that is detailed in the content standards. Each lesson has a share/discuss portion. During this section, found at the end of each lesson, students discuss their work and strategies used to solve problems from within the lesson. The teacher facilitates the discussion, asking questions such as "Did this work? Why or why not? Who is correct? How did _____ figure out the total? " The teacher also addresses misconceptions that were observed throughout the Workshop as he/she was monitoring student work. In Unit 4, Lesson 7, the teacher selects two objects from a tray of objects students will have access to during the Workshop, one of which does not hold rice. The teacher then asks students, "Which holds more?" Students turn to talk about how to figure out which object has a larger capacity or holds more? Students figure out that they can't find the capacity of the item because it doesn't hold rice. The teacher asks students to come up and show that they can't put rice inside of the item. Students begin to notice they are unable to measure the capacity of every item. Students pick items for which they are able to measure capacity, then perform the measurement, and use comparative language to discuss which held more. In Unit 3, students discuss counting and explain patterns in count by 1s and count by 10s with the decades and 1-9 within each decade. Students reason

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			about other students' ways of counting and keeping track of objects. Students may explain their thinking about teen numbers as 10 ones and some ones. In Unit 3, Lesson 5, students model their thinking when using a picture to draw a number. After students draw how many tens and ones make up the number, students discuss their work with a partner. During the discussion, students share strategies as they find ways to draw their number as tens and ones. In Lesson 5, students also discuss how to keep track of counting as they count the numbers mentally. In Unit 3, Lesson 29, students solve problems such as, "Hector shows Mario his penny collection. Hector has 3 jars in his collection. Hector has 10 pennies in each jar. Mario says that Hector has 40 pennies. Is Mario correct? Show and tell how you know." Students explain their work which provides other students an opportunity to critique their peers' work and agree or disagree with their explanation.
	6c) There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.	**No**	Materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Aligned practice standards are listed and described in the Unit Overview and include the way in which students authentically develop the math practices across the whole unit. The practices specific to a lesson are listed at the start of the lesson. However, the materials do not state a

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			purpose and intent for the practice standards within each lesson. The only guidance on how the students should utilize the practice standards is provided in the Unit Overview. Without specific guidance in the lessons, the materials do not support teachers in helping students develop the math practices overtime. Guidance is not provided in such a way to help teachers identify other opportunities to develop the practices in other areas.
	6d) Materials explicitly attend to the specialized language of mathematics.	**Yes**	Materials explicitly attend to the specialized language of mathematics. Mathematical vocabulary for the entire unit can be found in the Unit Overview Sections and provides the definition for each vocabulary word. The vocabulary words for Unit 5 include the terms “teen numbers,” “greater/more,” “less/few,” and “equal to.” In Unit 5, Lesson 1, by the end of the lesson, students understand that equal means the same and that more/greater means the same and some extra. Teacher guidance is provided in the lesson that explains that the terms may be new to the students, so teachers are guided to explicitly introduce the vocabulary and then encourage its use throughout the lesson. During the lesson, students compare the amount of objects in a bag by answering the questions “Which is more/greater?” Unit 4, which focuses on measurement, includes words such as length, weight, and capacity. Words also include taller, longer, and shorter. The

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			vocabulary list also includes which definition or explanation will be used for the unit. These words are introduced throughout the unit and are reviewed throughout lessons within the unit. In Unit 4, Lesson 5, students begin to learn about capacity. During the introduction of the lesson the vocabulary (capacity) is introduced along with the meaning. Vocabulary from previous lessons, such as length and weight, are reviewed. For example, in Unit 4, Lesson 5, students are introduced to the term capacity. During the lesson, the students are introduced to the term and measuring strategies that support students in developing mathematical language. Additionally, vocabulary from previous lessons, such as length and weight, are reviewed. Another example is evidenced in Unit 2, Lesson 12. Students develop an understanding of terms such as sides and corners as they discuss the attributes of 2D shapes. Students are encouraged to use these terms throughout the lesson as they describe and identify the shapes.
7. INDICATORS OF QUALITY: Quality materials should exhibit the indicators outlined here in order to give teachers and students the tools they need to meet the expectations of the Standards. ☒ Yes ☐ No	**Required** **7a)** There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Students are asked to produce answers and solutions in discussion, diagrams, and mathematical models. For example, in Unit 5, Lesson 12, Exit Ticket, students circle the next number in the sequence “47, 48, 49…” and “88, 89, 90…” In Unit 4, Lesson 4, students determine which object is heavier

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			by using a measuring strategy of their choice, either hefting or using a balance. Students work with both strategies and become comfortable with one strategy by the end of the lesson. For example, students are asked to describe the weight of the object: "I know the _____ is heavier/lighter than the _____ because …" Students are expected to use the sentence stem to give their answer, tell the strategy they used as a reason why the weight is heavy/light. In Unit 6, Lesson 17, students add and subtract by using addition and subtraction strategies that make sense to them, such as counting all, counting on, counting all remaining, counting back, and using known facts. During the lesson, students pick a card that includes an addition or subtraction problem. Students solve the problem and then record the number sentence. Students reason about the signs of addition and subtraction. At the end of the lesson, students solve problems and then "Circle the expression that would have a result that is more than 8" with the provided options "8+3" and "8-3." Unit 9, Lesson 2, includes problem solving tasks that ask students to produce answers and solutions as well as explanations and mathematical models to explain their thinking. For example, students solve the following problem: "Jake is helping Dad make a big pot of soup. The recipe says the soup needs ten peeled carrots. Jake peels two carrots but

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			has to stop to take his dog for a walk. Dad says he will finish peeling the carrots. Dad thinks he needs to peel nine carrots. Is Dad correct? Show and tell how you know." Students choose a strategy that works for them, such as make it, draw it, count on, or count back. Students then explain how they know if Jake's dad is correct or not.
	Required **7b)** There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of student responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Yes**	Materials provide separate teacher materials that support and reward teacher study. The materials contain a "Guide to Implementing AF Math: Grade K." This guide provides information about the lesson structures, unit lessons, daily aims (objectives), and aligned standards. The Implementation Guide can be used to further inform teachers about how to ensure students achieve the fluencies and procedural skills required by the Louisiana State Standards. The Guide provides a potential weekly and daily schedule. Math lessons are recommended for 45 minutes and Math Fluency for 10 minutes; totaling 55 minutes of instructional time. Each unit also includes its own Unit Overview with more detailed information for the teacher. This document provides standards, previous grade level standards, enduring understandings, a narrative version of the learning, models and visuals of learning, and math practice standard connections. The Narrative describes the ways in which students will develop their understanding of the content over the course of the unit, and is followed by key strategies.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Additionally, it provides information about previous learning and learning challenges including pre-requisite skills, potential misconceptions (with clarifications), and a detailed lesson sequence. Each Unit Overview also includes relevant teacher background cited directly from other sources, such as the Common Core Standards Progression Document. For example, the Unit 6 Overview identifies the standards addressed in the unit and includes LSSM K.OA.A1, K.OA.A.2, and K.OA.A.5. Guidance is provided on what this looks like in the lesson such as "By the end of the unit, students will develop an understanding of how counting relates to addition and subtraction, then they will apply that understanding to solve addition and subtraction problems in and out of context." The Narrative details the progression of learning within the unit and provides examples and pictures of key strategies used during the unit, such as using manipulatives, literal and abstract pictures, number bonds, and equations. A learning progression graphic is provided, followed by examples of Standards for Mathematical Practices utilized in the lesson. For example, students reason abstractly and quantitatively (MP.2) as they "represent quantities with numerals and numerals with quantities/pictures" and "create and defend why an equation represents a situation." Additionally, prerequisite skills, such as "Count and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			count out objects and pictures to 20," are provided.
	7c) Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	**No**	Materials do not include support for English Learners and other special populations. The materials do provide the opportunity for diverse learning support through extension activities as well as interventions through noted misconceptions and understandings in the lessons; however, in the Unit Overviews and lessons, support for English Learners was not evidenced. For example, the Unit 4 Overview provides unit vocabulary in English as well as major misconceptions and clarifications, but supports are not offered for English Learners. In Unit 3, Lesson 18, suggestions for misconceptions and extension are given, however there is no evidence of support for English Learners.
	7d) The underlying design of the materials distinguishes between problems and exercises. In essence, the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	**Yes**	The underlying design of the materials distinguishes between problems and exercises. As explained in the "Guide to Implementing Achievement First: Grade K" the curriculum incorporates two different lesson structures: Game Introduction Lesson, and Task Based Lesson. Each Game Introduction Lesson begins with an introduction to help students focus on the lesson's concept and strategies. This is followed by a Workshop that allows students to develop understanding of the lesson's concept and strategies. The teachers and students then engage in a Mid-Workshop Interruption that allows

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			time for the discussion of strategies and misconceptions which is then followed by a Discussion session in which the teacher and student summarize the learning and apply the learning to a new problem. The lesson ends with a Closing and Exit Ticket where students apply their learning by completing an exit ticket or skill fluency practice to show evidence of learning. For example, in Unit 1, Lesson 7, the teacher first introduces the lesson by modeling a game that students will play in groups or independently. A student is selected to assist in modeling the game. The game consists of students getting a bag and answering how many blocks are in the bag and then finding an equivalent set of linking cubes. The teacher chooses a student that will likely use a specific strategy, which may match 1:1 or count out the set. Students then work on their own using strategies that other students modeled while the teacher circulates to monitor. The Exit Ticket for this lesson includes exercises that provide students with the opportunity to show their understanding of the lesson as they answer questions such as “Write number sentences to show 2 ways to make a total of 7.” Students apply the skills/strategies they have learned to answer the exit ticket exercise. The materials also include Task Based Lessons that provide the students the opportunity to make sense of the math they have learned by working on a

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			problem solving task. Math fluency practice is included to ensure students get sufficient practice to move towards fluency skills.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Yes**	Lessons are appropriately structured and scaffolded to support student mastery. Each lesson is appropriately scaffolded to build student understanding. The introduction for the lesson develops initial understanding of the concept, the associated strategies, and the game used to practice the concept. The Workshop component of the lessons allows collaborative processing time for students. Students continue to develop understanding of the concept or strategy that is being presented in the lessons through partner discussions and hands-on learning with manipulatives (if applicable). The Discussion component (whole group) summarizes the day's learning and gives students another opportunity to share their strategies that worked for them. Closing/Exit Ticket gives students an opportunity to show evidence of student learning. The lessons across units are also appropriately structured and scaffolded. For example, in Unit 7, Lessons 1-3, "students begin by recognizing that a total can be composed of different parts by playing a game called Toss the Chips." Students toss counters that have a yellow side and a red side. Students start with only 5 counters, and determine that regardless how the counter falls, there will

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			always be 5. Students then begin to build equations by recording their tosses as 3 yellow and 2 red would be 3+2=5. Students then begin to decompose numbers in Lessons 4 and 5. Students are introduced to a story, “Bunk Beds,” in which students will find all of the ways 8 children could be arranged on a top and lower bunk at a sleepover. This leads to a task in Lessons 7-9 where students are presented with 5 apples. Students use their understanding of compensation and equivalencies to list the possible combinations of red apples and green apples. This leads to students applying the same strategies to a total of 10. The units are also appropriately structured and scaffolded in a way to support student mastery. In Unit 1, students develop an understanding of counting and sequencing up to 10 as they focus on concepts and skills such as giving one number to each object, counting each object only once, and keeping track of what has been counted and what remains to be counted. The next unit focuses on Geometry as students identify flat and solid shapes according to their attributes such as the number sides and corners. Students continue to build understanding of counting and cardinality in Unit 3 as they apply similar strategies used in Unit 1 and 2 to count and write numerals up to 10 and understand number patterns up to 50. By the end of the unit, students count by ones to 50 and count by tens to 100. In

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Unit 4, students further develop this understanding as they focus on measurement. In Unit 5, students count and compare numbers both concretely and abstractly. By the end of Unit 6, students represent addition and subtraction scenarios concretely, pictorially, and with equations as they learn to relate counting to addition and subtraction. In Unit 7, students learn to compose and decompose numbers within ten in order to build their understanding of the operations of addition. In Unit 8, students develop an understanding of place value as they understand that the two digits in a two-digit number represent amounts of tens and ones. Unit 9 is a culminating unit in which students apply learning from each of the units to various tasks and problems.
	7f) Materials support the uses of technology as called for in the Standards.	**N/A**	The LSSM do not call for use of technology in Grade K.

FINAL EVALUATION

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

Compile the results for Sections I and II to make a final decision for the material under review.

Section	Criteria	Yes/No	Final Justification/Comments
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	Materials devote a large majority of time to major work of the grade. Materials spend the appropriate amount of time on grade-level work, while assessing grade-

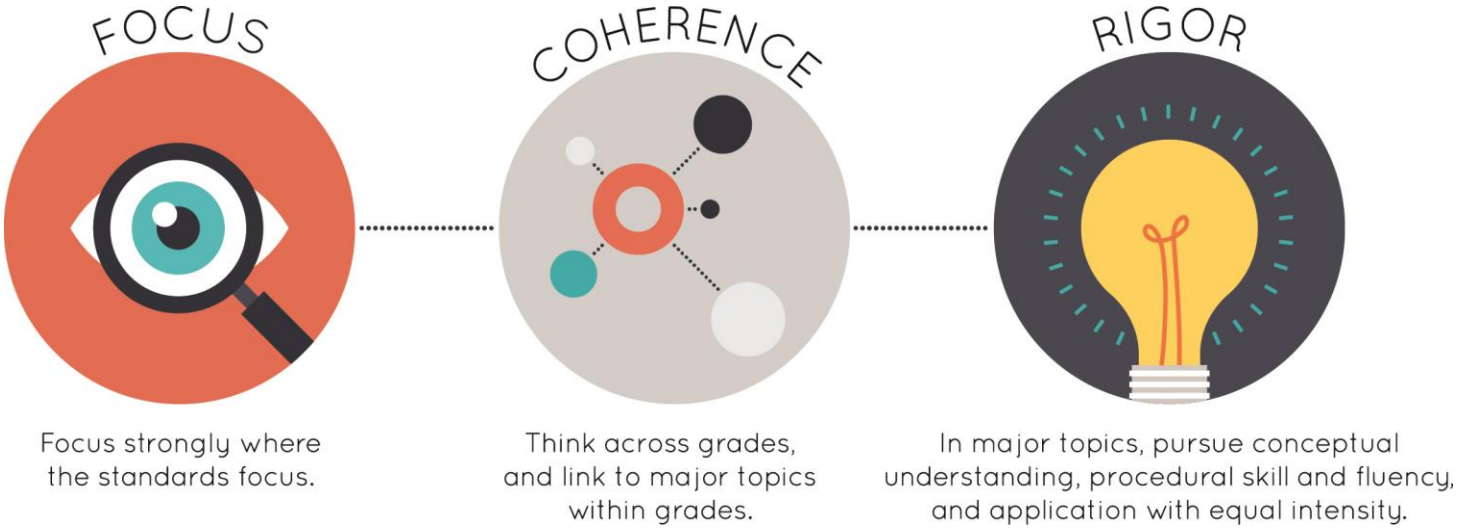
[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			level standards. The assessment components do not make students or teachers responsible for topics before the grade level in which they are introduced.
	2. Consistent, Coherent Content	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year for the majority of the time. Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade-level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	Materials develop conceptual understanding of key mathematical concepts for Kindergarten. Materials are designed so that students attain the fluencies and procedural skills required by the LSSM for Kindergarten. Materials are designed so that students spend sufficient time working with engaging applications. It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately.
	4. Focus and Coherence via Practice Standards	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade.
II: Additional Criteria of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	Materials provide students extensive work with grade-level problems. Materials build concepts from each standard to accommodate new knowledge. Concepts are taught in a

[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			logical order and maintain progressions consistent with those contained in the standards. Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.
	6. Alignment Criteria for Standards for Mathematical Practice	**Yes**	Materials attend to the full meaning of each practice standard. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key Grade K mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.
	7. Indicators of Quality	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Materials provide separate teacher materials that support and reward teacher study. The underlying design of the materials distinguishes between problems and exercises. Lessons are appropriately structured and scaffolded to support student mastery. However, materials do not include support for English Learners and other special populations. The LSSM do not call for use of the technology in Grade K.
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Strong mathematics instruction contains the following elements:



Title: **Achievement First Math**

Grade/Course: **1**

Publisher: **Achievement First**

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Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Alignment Criteria for Standards for Mathematical Practice	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality **Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.**			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials should devote the large majority of class time to the major work of each grade/course. Each grade/course must meet the criterion; do not average across two or more grades.	**Yes**	Materials devote a large majority of time to major work of the grade. Of the 142 instructional lessons, 77% are spent on major work of the grade. Specifically, 74% are spent on major standards alone, 3% are spent on a combination of major and supporting/additional standards, 16% are spent on supporting and additional standards, and 7% are spent on enrichment lessons.
	Required **1b)** In any one grade/course, instructional materials should spend minimal time on content outside of the appropriate grade/course. Previous grade/course content should be used only for scaffolding instruction. In assessment materials, there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.	**Yes**	Materials spend an appropriate amount of time on grade-level work. Materials utilize nine units to develop student mastery. Unit assessments are available to assess student mastery of skills and concepts presented in each unit. The assessment components do not make students or teachers responsible for topics before the grade level in which they are introduced. For example, Unit 1 Assessment, question 3, "complete the chart by writing your numbers starting with 1" addresses LSSM 1.NBT.A.1. In Unit 8 Assessment, question 1, students find the correct order of length of flower from shortest to tallest (LSSM 1.MD.A.1) Although some items assess standards outside of Grade 1, implementation

[2] For more on the major work of the grade, see Focus by Grade Level.

[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			suggestions for Louisiana teachers are provided for each item. These suggestions are found in the Guide to Implementing AF Math Grade 1 under the column "Notes/Rationale for Action." Materials outside of grade level are marked as extensions that teachers may opt to skip. For example, in Unit 1, there are 16 lessons that include 15 on-grade-level lessons and 1 remediation lesson. While Unit 1, Lesson 1, does focus on LSSM 1.NBT.A.1, it is more focused on habits of the classroom and may be skipped if not needed. In Unit 3, Lesson 27, the tasks within this lesson are two-step problems and therefore align to LSSM 2.OA.A.1. Unit 9 contains five lessons that address LSSM 2.NBT.B.5, but are marked as extension lessons that can be skipped. The Unit 9 Assessment, questions 7-8 assess LSSM 2.NBT.5, but teachers are guided "to remove or use for extension purposes only." Lessons 7-11 in Unit 9 reference second grade standards in the lesson, but it is not documented in the Unit 9 Overview or Guide to implementing AF Math as LSSM 2.NBT.B.5 until Lesson 13. For example, in Unit 9, Lesson 7, introduction states "We have been working so hard on our second grade addition. Today we're going to solve more second grade problems. In some of the problems today we may need to regroup to make a new ten", however students use pictorial and concrete

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			representations to model the addition aligning to 1.NBT.C.4a.
Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and consistent with the content in the Standards. ☒ Yes ☐ No	**Required** **2a)** Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year for the majority of the time. In Grade 1, there are two supporting standards, LSSM 1.MD.C.4 and 1.MD.D.5. Unit 4, Data, addresses these two standards. While the unit focuses on supporting work, some connections are made to major work of the grade. Lessons 1-6 address supporting LSSM 1.MD.C.4 and make some connections to major work of the grade; however, Lesson 7, which addresses LSSM 1.MD.D.5, does not address the standard to its full intent and does not make any connections to major work of the grade. During Lessons 1-6, students represent and interpret data in a variety of ways. Students answer questions about the data, such as how many in each category, how many in a combination of categories, how many in all, and how many more/fewer. Students use pictures and counting to answer these questions at the start of the lesson, and by the end of the lesson, students use addition and subtraction strategies to find the amounts. For example, in Lesson 2, students analyze a chart, "Our Favorite Sports." Students answer how many in each category and how many all together questions, using a variety of strategies, such as counting all and counting on. In

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Lessons 4-6, students begin to analyze data by answering how many more/less questions. Throughout the lessons, students describe strategies used when determining amounts. Students relate addition and subtraction as they solve problems. In Lesson 6, students answer the following question during the "Favorite Fruits" activity, "How many fewer kids voted for oranges than apples? How many more kids voted for pears than apples? How many kids voted for apples and oranges?" The work in these lessons connect supporting LSSM 1.MD.C.4 to major LSSM 1.OA.A.1, 1.OA.A.2, 1.OA.C.5, and 1.OA.C.6. However, In Unit 4, Lesson 7, addresses supporting LSSM 1.MD.D.5. This lesson does not fully address the standard nor is it connected to major work of the grade. The Guide to Implementation advises that Lesson 7 "does not cover the full breadth of LSSM 1. MD.D.5. Teachers will need to supplement to ensure mastery of the full standard." In the lesson, students sort coins, identify coins by features, and know their worth. For example, question #1 asks for students to circle the quarter and cross out the penny. This question, along with others in the lesson, do not connect supporting content to major content.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	Required **2b)** Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade/course, in cases where these connections are natural and important.	**Yes**	Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade level where these connections are natural and important. Unit 3, Lessons 1-8 connect cluster B (Understand and apply properties of operations and the relationship between addition and subtraction) and cluster C (Add and subtract within 20) of the Operations and Algebraic Thinking (OA) domain. For example, in Lesson 1, students identify parts and whole of a number and represent the parts and whole in number bonds. Students reverse the parts to understand that the whole remains the same. Students use bags of cubes that include two different colors, for example, one bag includes 3 red and 2 yellow cubes. Students determine the whole by putting the cubes together and the parts by separating the cubes. Students record the numbers in a number bond (LSSM 1.OA.B.3, 1.OA.C.6). Unit 5 also connects clusters A (Represent and solve problems involving addition and subtraction), B, and C of the OA domain. For example, in Lesson 4, students roll cubes and get 3 numbers to add together. Students begin by using the counting on strategy, but then move toward solving addition problems using the associative property to try and make a known fact. Students understand that to solve 4+2+3, they can add 3 and 2 to equal 5 and then add 4

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			more to equal 9 (LSSM 1.OA.B.3 and 1.OA.C.6). Unit 4 connects the Measurement and Data (MD) domain and the Operations and Algebraic Thinking (OA) domain as students create, analyze, and interpret graphs by answering how many/fewer questions.
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	**Required** **3a)** ***Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for explicitly in specific content standards or cluster headings by amply featuring high-quality conceptual problems and discussion questions.	**Yes**	Materials develop conceptual understanding of key mathematical concepts for Grade 1. The materials provide students the opportunity to develop conceptual understanding of key mathematical concepts throughout nine units. In Unit 2, students identify attributes of two- and three-dimensional shapes. Students build an understanding of the defining and non-defining attributes and sort shapes based on their attributes. Students then apply this understanding in a series of lessons involving composing and decomposing shapes. Specifically, in Unit 2, Lesson 9, students compose and decompose squares (LSSM 1.G.A.2). Students build conceptual understanding by fitting shapes like triangles together to create different shapes like squares and rectangles. In Unit 5, Lesson 13, students work on creating fact families with 2 addition equations and 2 subtraction equations. This work progresses in Lesson 14, where students relate their knowledge of part-whole relationships to write subtraction problems as addition problems and count up. In Lesson 15,

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			students use this prior knowledge and choose a strategy to solve a subtraction problem. The lesson is designed to encourage students to mostly use the count up strategy. One activity in Lesson 15 includes the problem 11-9 and encourages students to count back from 11 or to count up from 9 (LSSM 1.OA.B.4). Another example is evidenced in Unit 6, Lesson 5, as students decompose numbers 10 through 90 by representing the tens and ones with sticks and dots and counting by tens and ones. In a previous lesson, students composed two-digit numbers and represented them with pictures. In Lesson 5, students build upon their understanding of place value by counting groups as though they were individual objects (LSSM 1.NBT.2a and 1.NBT.2b). In Unit 5, Lesson 7, students decompose a number leading to making a ten (LSSM 1.OA.C.6). Specifically in Lesson 7, during the introduction, the teacher draws 8+6 and then states “Andy says that he can make ten by taking 2 from 6. Ari says he can make ten by taking 4 from 8. Who is correct?” Through teacher discussion, students are led to understand “Both ways make ten and they both are 10+4 or 14. Andy knew that to make 10 from 8, he needed 2. Ari wanted to use 6 to make 10, so he took 4 from 8.” In Unit 9, Lesson 3, students used cubes or sticks and dots to find the total when adding a two-digit number to

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			a one-digit number. In Lesson 4, students break apart the one-digit number to make the two-digit number a multiple of ten, and add that multiple to the remaining part of the one-digit number. For example, when finding 45+7, students break apart 7 to understand that 45+5+2 = 50+2 which equals 52 (LSSM 1.NBT.4).
	Required **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students attain the fluencies and procedural skills required by the Standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.	**Yes**	Materials are designed so that students attain fluency and procedural skills required by the LSSM for Grade 1. Opportunities to attain fluency and procedural skills are present in a Fluency Practice Workbook for each unit. The Guide on Implementing AF Math Grade 1 states fluency opportunities are completed after the lesson for 10 minutes daily. An example is found in Fluency and Practice Workbook D, problems 9 and 10, in which students are asked "What is the value of each set of coins?" (LSSM 1.MD.D.5). Students are expected to fluently add and subtract within 20 in order to demonstrate fluency with addition and subtraction within 10 (LSSM 1.OA.C.6). Throughout Unit 3, students learn several strategies to solve addition and subtraction problems and, through this repetition, develop fluency for addition and subtraction within 10. For example, in Lesson 2, students use the "count on" strategy to find the sum. During the lesson, students roll cubes, find the total by counting on, and then write an equation or number bond to

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			represent the problem. Students continue to practice fluency as they progress through the units and build upon this skill as they add and subtract within 20. The teacher's guide suggests that the students complete the Fluency Workbook in order to ensure sufficient practice towards fluency with LSSM 1.OA.C.6. Several activities are provided in the workbook to support students in building fluency for addition and subtraction within 10. In Unit 5, Lesson 1, students continue to build toward fluency with addition and subtraction of numbers to 10 and beyond. For example, students use properties of operations and relate counting to addition and subtraction to add and subtract within 20 to demonstrate fluency (LSSM 1.OA.C.6). Students roll cubes and add the two numbers together. Then they switch cubes around to add cubes, demonstrating commutative property. Teachers are instructed to use the Fluency Workbook in this unit as well to build fluency towards LSSM 1.OA.C.6. Throughout Unit 9, students add within 100, using concrete models or drawings, and learning how to compose a ten (LSSM 1.NBT.C.4). For example, in Lesson 4, when adding a two-digit number to a one-digit number, students decompose the one-digit number to make a multiple of ten to solve. This practice builds towards fluency of adding within 100. In Lesson 5, students have the opportunity to practice

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the addition as they solve problems such as 38+50, 24+7, and 4+58.
	Required **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content Standards where expectations for multi-step and real-world problems are explicit.	**Yes**	Materials are designed so that students spend sufficient time working with engaging applications for Grade 1. The materials provide students the opportunity to use strategies they have learned to solve real- world word problems in a meaningful way. Grade 1 has three application standards, LSSM 1.OA.A.1, 1.OA.A.2, and 1.MD.C.4. For example, in Unit 5, the final assessment asks “Sally had 4 stickers in her sticker collection. Her teacher gave her some more. Now she has 12. How many stickers did her teacher give her? What subtraction problem could you use to solve this story problem?”(LSSM 1.OA.A.1). Another example is in the Unit 4 final assessment in which students use a bar graph to answer a series of questions about their friends’ pets in questions 8-10. Students add all pets and subtract to find how many more dogs than fish their friends have (LSSM 1.MD.C.4). Unit 3, Lesson 11, step 1 problem states, “The blue table was working on an art project. They had 4 red crayons, 3 blue crayons, and 2 green crayons. How many crayons did they have?” Students solve the word problem by adding three whole numbers (LSSM 1.OA.A.2). In Unit 3, Lesson 12, students represent word problems using cubes. For example, students solve the following problem: “Bobby had 4 toy cars.

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			For his birthday, his friends gave him some more. Now he has 9 toy cars. How many cars did his friends give him?" (LSSM 1.OA.A.1). Another example is evidenced in Unit 4, Lesson 3, as students sort data to create bar graphs (LSSM 1.MD.C.4). Then, in Lesson 4, they apply their knowledge to answer questions about the graphs, applying conceptual understanding and procedural skill of LSSM 1.MD.C.4. For example, students analyze a graph to answer "How many kids like marble and chocolate cake?"
	Required **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately. Lessons are designed to be taught in two parts totaling 55 minute blocks: 45 minutes for the Math Lesson and 10 minutes for Math Fluency. Although procedural skill and fluency is developed in many of the lessons, students have frequent opportunities to practice procedural skills and fluency during the Math Fluency portion of the lesson. Students build conceptual understanding throughout the lessons and use the understanding to build procedural skills and fluency and apply the understanding in real world context when appropriate. For example, in Unit 1, Lesson 6, students count numbers to 100 (procedural) and, as they count, they build conceptual understanding as they notice a pattern in the one's place.

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			Students apply this pattern in the exit ticket problem. Students complete a counting strip beginning with 82 (LSSM 1.NBT.A.1). Unit 4, Lesson 2, addresses all components of rigor. During the lesson, they use a graph to count how many students like oranges, apples, bananas, and grapes. Students use this information to add or subtract to find the total or difference in the number of fruits that kids like and answer "how many" questions (LSSM 1.MD.C.4). In Unit 6, Lesson 14, students build conceptual understanding of subtraction of multiples of 10 (LSSM 1.NBT.C.6). Students answer questions such as when solving 40-20, "How would knowing 4-2=2 work?" A possible student response states, "That works because 40 is the same as 4 tens and 20 is the same as 2 tens, so if we can think 4 tens - 2 tens = 2 tens. Then we can think 2 tens = 20." After the lesson, students complete fluency practice in the Grade 1 Fluency and Practice Workbook I, which supports learning for Unit 6.
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. ☒ Yes ☐ No	**Required** **4a)** Materials address the practice standards in such a way as to enrich the content standards of the grade/course; practices strengthen the focus on the content standards instead of detracting from them, in both teacher and student materials.	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade. The Unit Overview provides a description for how the practice standards are utilized throughout the unit. Additionally, each lesson lists the practice standards specific to that lesson. The practices are utilized in a way to enrich the content standards and not detract from them. For example,

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			in Unit 4, Lesson 6, students determine how many objects are in each category and solve problems by analyzing a bar graph (LSSM 1.MD.C.4). Students determine how to represent the data that they collect (MP.1) so others will understand when they create a graph about favorite candy (MP.4). Students attend to precision as they answer questions about the graphs and data (MP.6) and explain the strategy they used to create the graphs (MP.3). Another example is evidenced in Unit 6, Lesson 16, which emphasizes the use of MP.3 and MP.7. In the lesson, students add within 100 (LSSM 1.NBT.C.4), mentally find 10 more or 10 less than a given number, and explain the reasoning (LSSM 1.NBT.C.4 & 1.NBT.C.5, MP.3). Students use concrete models or strategies to subtract multiples of 10 in the range of 10-90 (LSSM 1.NBT.C.6, MP.7). Problem 3 on the exit ticket for the lesson states, “asks students to solve 50-20, then to explain how you can use place value to help you solve.” In Unit 8, Lesson 4, students measure the length of objects using a variety of units (LSSM 1.MD.A.2). Students must ensure that there are no gaps or overlaps when measuring, and that they accurately measure the object from end to end. They also must be sure to label the unit used so that they can communicate precisely about the lengths of objects (MP.6). Students construct arguments

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			and critique the reasoning of others in the Share/Discussion portion of the lesson when the teacher is prompted to "Facilitate a discussion around a major misconception, show non-example and related example: Which is correct? Why doesn't ____'s work?" (MP.3).
Section II: Additional Criteria of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No	**Required** **5a)** Materials provide all students extensive work with course-level problems. Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**Yes**	Materials provide all students extensive work with grade-level problems. The major work in Grade 1 focuses on understanding place value, addition and subtraction. Students continue to develop their understanding of what it means to add and subtract, learn new strategies to solve addition and subtraction problems, and solve word problems by adding or subtracting. The materials include nine units. Of the nine units, five of the units focus on major grade-level work. The other four units are supporting and additional content such as representing and interpreting data, working with money, and reasoning with shapes and their attributes. The Implementation Guide included in the materials gives a breakdown of each unit and if the lesson within the unit is optional for remediation, optional for enrichment, or on grade-level. Each lesson in the curriculum is broken into parts such as Introduction, Workshop, Mid-Workshop Interruption, and Discussion/Closure which may or may not include a fluency activity and/or exit ticket. The problems in the Workshops provide

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			students the opportunity to work with problems in a variety of formats to integrate and extend concepts and skills. In Unit 1, Lesson 9, students determine the number that comes between two numbers, right after a number, or right before a number by thinking about the pattern in the counting sequence. (LSSM 1.NBT.A.1). This builds on what students already know since up to this point, students have worked to use the pattern to determine the next number in a sequence of several numbers, usually starting at one. During the lesson, students roll dice, move that many times on a game board, and then read the clue to determine the number using a variety of strategies. Game clues include statements such as “right before 90” and “between 99 and 101.” Extra practice is provided in the Fluency Workbook that coincides with this standard. In Unit 7, Lesson 4, students work on telling time to the hour and half hour on analog and digital clocks. In previous lessons, students partitioned shapes into halves and quarters by drawing lines to create equal parts. In this lesson, students learn about the features of a clock and then use their understanding to tell time to the hour using both analog and digital clocks. “Students will look at an analog clock and write the time (i.e. 6:00). Students should be able to explain their work by referencing the hour hand and minute

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			hand. For example, “I know it’s 6 o’clock because the hour hand is pointing to the 6 and the minute hand is pointing to the 12, so I know it’s the start of a new hour.” Students complete several problems such as writing the time shown on a clock in 19 problems, matching analog and digital clocks showing the same time in 10 problems, and then drawing the hour hand on a clock and writing out the time in 5 problems. There is an exit ticket to accompany this lesson with two questions, one of which students write the time shown on the clock, and on the other students draw the hands on the clock to display the time given (LSSM 1.MD.B.3).
	Required **5b)** Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**Yes**	Materials relate grade-level concepts explicitly to prior knowledge from earlier grades. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge. Concepts are taught in a logical order and maintain progressions consistent with those contained within the standards. The materials are designed so that students connect prior knowledge to new concepts. The materials build on a student's understanding of skills and concepts previously learned to develop a deeper understanding of the content throughout each unit. For example, Unit 1, Lesson 2, focuses on counting to 120, starting at any number less than 120 (LSSM 1.NBT.A.1). In Kindergarten, students should have mastered counting

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			up to 100 by ones and tens (LSSM K.CC.A.1). The key point for Unit 1, Lesson 2, is for students to arrange large quantities into tens, ones and skip count by ten. In Kindergarten, students learned how to count forward beginning from a given number within the known sequence instead of having to begin at 1 (LSSM K.CC.A.2). Students utilize their understanding of sequence in Grade 1 by skip counting by ten when grouping larger quantities of ten. By the end of Kindergarten, students should have been able to fluently add and subtract within 5 (LSSM K.OA.A.5) and add and subtract within 10 (LSSM K.OA.A.2). The materials build on this skill by using the "count on" strategy in Unit 3, Lesson 3. Students are given a number bond worksheet and asked to add two numbers such as 5 + 5. The numbers are generated from cubes the students roll. One has numbers on it and the other has dots. Students record work on the sheet and circle whether they used the count all or count on strategy. Students start at 5 and then count on to 10 (LSSM 1.OA.C.6). In Kindergarten, students compose and decompose numbers from 11 to 19 into ten ones and some further ones (LSSM K.NBT.A.1). The materials extend this thinking as students begin to understand that the two digits of a two-digit number represent amounts of tens and ones in Unit 6, Lesson 1, with

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			questions such as 33 is ____ tens and ____ ones. (LSSM 1.NBT.B.2b).
	5c) Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.	**Yes**	Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards. The materials include nine units with multiple lessons that begin by stating the standard cluster in the lesson, listing the standards related to the lesson, as well as the mathematical practice standards used in the lesson. Each lesson has a lesson "Aim" that is shaped by the content standard(s) of the lesson. This is followed by "What Key Points" which is what students should know by the end of the lesson and "How Key Points" which focuses on student understanding needed to achieve mastery of those key points. For example, Unit 5, Lesson 11 begins by stating the clusters addressed in the unit and includes: "Represent and solve problems involving addition and subtraction. Understand and apply properties of operations and the relationships between addition and subtraction. Add and subtract within 20. Work with addition and subtraction equations," reflecting the language of clusters A, B, C, and D, respectively, of the Operations and Algebraic Thinking (OA) domain. The standard is then listed and defined. The "Aim" of the lesson states that students will "solve addition and subtraction problems by using a 10 as a landmark," reflecting the language and

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			intent of LSSM 1.OA.C.3 and 1.OA.C.6. "What Key Points" include, "10 is a useful landmark." Additionally, one of the "How Key Points" includes, "I can use landmark strategies to help me solve problems efficiently: I can make ten to add by decomposing one addend in two parts, one of which makes ten when combined with the other addend; then I can add the other part of the decomposed addend to the ten." In Unit 1, Lesson 14, the "Aim" states, "SWBAT find the difference between a number cube and a dot cube by counting back" reflecting the language and intent of LSSM 1.OA.5. In Unit 5, Lesson 1, the "Aim" states students will "apply the commutative property to find the total when addends are repositioned by recognizing that the result will not change" directly correlating with LSSM 1.OA.3.
6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE: Aligned materials make meaningful and purposeful connections that enhance the focus and coherence of the Standards rather than detract from the focus and include additional content/skills to teach which are not included in the Standards. ☒ Yes ☐ No	**Required** **6a)** Materials attend to the full meaning of each practice standard. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standard. Alignments to practice standards are accurate.	**Yes**	Materials attend to the full meaning of each practice standard. Each Unit Overview outlines the practice standards of the unit and includes when and how the teacher should "intentionally provide students with opportunities to practice" in the unit. The practice standards are also listed at the beginning of each lesson in the course material. For example, in Unit 2, according to the Unit 2 Overview, students have the opportunity to utilize MP.3, MP.5, MP.6, and MP.7. More specifically, students utilize MP.3 as they "engage in discussions about defining and non-defining attributes of shape," MP.5 as

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			they "use appropriate pattern blocks and 3D shapes," MP.6 as they "attend to precision when composing and decomposing shapes so that there are no gaps or overlaps," and MP. 7 as they "use the defining attributes of shapes to identify, sort, and compare shapes." Unit 2, Lesson 5, focuses on composing two dimensional shapes and three dimensional shapes (LSSM 1.G.A.2). The objective of the lesson is for students to decompose a shape by identifying which smaller shapes could be put together to make the larger shape. To decompose a shape and identify which smaller shape could be put together to make the larger shape, students use appropriate tools (pattern blocks) strategically (MP.5). For shapes to make other shapes, students must attend to precision (MP.6) and ensure that there are no gaps and no overlaps. In Unit 4, Lesson 1, students show data by representing the data in a way that makes sense to them (cubes, picture, graphs, chart, tally). Students have the opportunity to choose how to represent their data. Students choose their own method in which to display their data, connecting to MP.5 (LSSM 1.MD.C.4). Additionally, students attend to precision as they organize the data collected from asking people's favorite color in a graph or chart. In Unit 7, Lesson 3, students partition circles and rectangles into two and four equal shares, describe the shares using the words

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			halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Students are expected to describe the whole as two of, or four of the shares and understand that decomposing into more equal shares creates smaller shares (LSSM 1.G.A.3). Students utilize MP.7 and MP.3 during the lesson. Students solve a problem such as "Kim has a granola bar to share with three of her friends. The granola bar is in the shape of a rectangle. Kim cuts the granola bar into fourths. Kim says if they each eat a fourth, there will be no more granola bar left. Is Kim correct? Show and tell how you know." (MP.3). Additionally, students solve problems such as, "Dad bakes two small peach pies. Both small peach pies are the same size. Dad cuts one peach pie in halves. Dad cuts one peach pie in fourths. Dad says Max can eat just one piece of peach pie. Max loves peach pie and wants to eat the largest piece of peach pie. Which piece of pie does Max pick to eat? Show all of your mathematical thinking." Students will make use of fractions that they have learned in previous lessons (MP.7).
	Required **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving as a form of argument, attending thoroughly to places in	**Yes**	Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key Grade K mathematics that is detailed in the content standards. Each lesson has a share/discuss portion. During this section, found at the end of each

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	the Standards that explicitly set expectations for multi-step problems.		lesson, students discuss their work and strategies used to solve problems from within the lesson. The teacher facilitates the discussion, asking questions such as "Did this work? Why or why not? Who is correct? How did ____ figure out the total? " The teacher also addresses misconceptions that were observed throughout the Workshop as he/she was monitoring student work. In Unit 9, Lesson 1, students add a two-digit number and a multiple of ten, such as, 34 + 20 =?. Students represent the problem using cubes or sticks and dots and solve by counting all by tens and ones. Students explain their work which provides other students an opportunity to critique their peers' work and agree or disagree with their explanation. In Unit 3, Lesson 11, students use addition and subtraction within 20 to solve word problems and solve word problems that involve addition of three whole numbers whose sum is less than or equal to 20. For example, "The blue table was working on an art project. They had 4 red crayons, 3 blue crayons, and 2 green crayons. How many crayons did they have?" Students are tasked with representing the problem through modeling (drawing, number bonds, tape diagram). Students discuss the tool they use to represent the problem as well as strategies used to solve the problem. In Unit 8, Lesson 6, students solve multi-step story problems such as "Bob is taller than

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Andy. Bob is shorter than Joe. Is Joe taller or shorter than Andy? How do you know?" The teacher asks if there is something they can do to help visualize the problem, prompting students to state they could draw a picture. Students use the information given to draw the picture to determine if Joe is taller or shorter. Students then write their answers on their paper. As students work throughout the problem, the teacher circulates around the room to monitor student progress. Any misconceptions are addressed to ensure student understanding as the teacher facilitates a discussion by asking students questions such as "Which isn't correct? Why doesn't that work? How did they solve it?"
	6c) There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.	**No**	Materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Aligned practice standards are listed and described in the Unit Overview and include the way in which students authentically develop the math practices across the whole unit. The practices specific to a lesson are listed at the start of the lesson. However, the materials do not state a purpose and intent for the practice standards within each lesson. The only guidance on how the students should utilize the practice standards is provided in the Unit Overview. Without specific guidance in the lessons, the materials do

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			not support teachers in helping students develop the math practices over time. Guidance is not provided in such a way to help teachers identify other opportunities to develop the practices in other areas.
	6d) Materials explicitly attend to the specialized language of mathematics.	**Yes**	Materials explicitly attend to the specialized language of mathematics. Mathematical vocabulary for the entire unit can be found in the Unit Overview Sections and provides the definition for each vocabulary word. For example, Unit 8, which focuses on measurement, includes words such as length, unit, longer than, shorter than, and ____ cubes long. The vocabulary list also includes which definition or explanation will be used for this unit. These words are introduced throughout the unit and are reviewed throughout lessons within the unit. In Unit 8, Lesson 1, students review the term length and its definition and use the term throughout the lesson as they develop an understanding of exact measurements using connecting cubes. Students build upon this knowledge in the next three lessons as they use centimeter cubes, inch tiles, and paper clips continuing to use measurement terminology. Students are expected to explain their work by saying things such as “The pencil is ____ centimeter cubes long. It is a smaller unit so there are more of them. The pencil is ____ paper clips long. It is a larger unit so there are fewer of them.” The vocabulary for Unit 7 includes partition, halves,

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			quarters or fourths, hour hand, and minute hand. The mathematical language is present in each of the lessons in the unit. For example, in Unit 7, Lesson 6, the lesson objective is for students to show time to the half hour by drawing the hour hand and minute hand. Students must have an understanding of the hour hand and minute hand in order to solve the problems. In Unit 2, students identify, name and describe the defining attributes of two-and three-dimensional shapes, sort the shapes by their attributes, compose and decompose the shapes, and use a composite shape to compose a new shape. In Unit 2, Lesson 1, students describe shapes by creating a list of defining attributes for each shape using terms such as sides and corners. In Lesson 4 and 5, students develop an understanding of decomposing a shape as "breaking it down."
7. INDICATORS OF QUALITY: Quality materials should exhibit the indicators outlined here in order to give teachers and students the tools they need to meet the expectations of the Standards. ☒ Yes ☐ No	**Required** **7a)** There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Students are asked to produce answers and solutions in discussion, diagrams and mathematical models. For example, in Unit 6, Lesson 1, the students compose numbers 10-50 by counting by tens and ones and drawing a representation. Students are given a zipper storage bag with cubes and determine how many by counting by tens and ones. Students also draw a picture to represent their cube amount and write a number to match the

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			total value of the cubes. In Unit 6, Lesson 11, students fill in the blank with the correct sum of a two-digit by two-digit addition problem on the exit slip. In Unit 4, Lesson 6, students represent and interpret data by using graphs as a representation and create their own representation to match the graph. Students analyze bar graphs and tally charts. Students describe the strategy they used to analyze the graph to determine how many and how many more or less. The Unit 7 Assessment provides students an opportunity to produce answers and show what they know through use of multiple choice items as well as having to represent or draw models to answer questions. For example, one question on the unit assessment asks students to "show all the ways you could shade in half the rectangles." Another question asks students to "draw the hands on the clock to show the time." For this question, a digital clock is displayed that shows the time. An analog clock is drawn for the students and they must draw the hands on the clock correctly to display the correct time. In Unit 2 Lesson 4, students decompose a shape when asked, "Which smaller shapes could be put together to make the larger shape?" Students start with the decomposition of the shape over the top of the total shape so that they are able to identify gaps and overlaps that would prevent them from recreating the shape and identifying what shapes

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			compose other shapes. Students are encouraged to visualize what shape could fit within the space that is available. Students then complete a worksheet with hexagons printed on it and cover the hexagons with pattern blocks. Students record what blocks were used to make the hexagon.
	Required **7b)** There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of student responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Yes**	Materials provide separate teacher materials that support and reward teacher study. The materials contain a "Guide to Implementing AF Math: Grade 1." This guide provides information about the lesson structures, unit lessons, daily aims (objectives), and aligned standards. The Implementation Guide can be used to further inform teachers about how to ensure students achieve the fluencies and procedural skills required by the Louisiana State Standards. The Guide provides a potential weekly and daily schedule. Math lessons are recommended for 45 minutes and Math Fluency for 10 minutes; totaling 55 minutes of instructional time. Each unit also includes its own Unit Overview with more detailed information for the teacher. This document provides standards, previous grade level standards, enduring understandings, a narrative version of the learning, models and visuals of learning, and math practice standard connections. The Narrative describes the ways in which students will develop their understanding of the content over the course of the unit, and is followed by key strategies.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Additionally, it provides information about previous learning and learning challenges including pre-requisite skills, potential misconceptions (with clarifications), and a detailed lesson sequence. Each Unit Overview also includes relevant teacher background cited directly from other sources, such as the Common Core Standards Progression Document. For example, the Unit 5 Overview identifies the standards addressed in the unit and includes LSSM 1.OA.B.3, 1.OA.B.4, 1.OA.C.6, 1.OA.D.7, and 1.OA.D.8. Guidance is provided on what this looks like in the lesson such as "Students use an understanding of part-part-whole to relate addition and subtraction." The Narrative details the progression of learning within the unit and provides examples and pictures of key strategies used during the unit, such as count all, count on, count up, count back, and make ten to add. A learning progression graphic is provided, followed by examples of Standards for Mathematical Practices utilized in the lesson. For example, students use appropriate tools strategically as they "use manipulatives, pictures, number bonds, and number lines to help them solve." Additionally, prerequisite skills, such as "Students add and subtract fluently within 5" and "Students can count all to add and subtract with 10" are provided.
	7c) Support for English Language Learners and other special populations is thoughtful and helps those	**No**	Materials do not include support for English Learners and other special

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	students meet the same standards as all other students. The language in which problems are posed is carefully considered.		populations. The materials do provide the opportunity for diverse learning support through extension activities as well as interventions through noted misconceptions and understandings in the lessons; however, in the Unit Overviews and lessons, support for English Learners was not evidenced. For example, the Unit 5 Overview provides unit vocabulary in English as well as major misconceptions and clarifications, but supports are not offered for English Learners. In Unit 6, Lesson 20, suggestions for misconceptions and extension are given, however there is no evidence of support for English Learners.
	7d) The underlying design of the materials distinguishes between problems and exercises. In essence, the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	**Yes**	The underlying design of the materials distinguishes between problems and exercises. As explained in the "Guide to Implementing Achievement First: Grade 1" the curriculum incorporates two different lesson structures: Game Introduction Lesson and Task Based Lesson. Each Game Introduction Lesson begins with an introduction to help students focus on the lesson's concept and strategies. This is followed by a Workshop that allows students to develop understanding of the lesson's concept and strategies. The teachers and students then engage in a Mid-Workshop Interruption that allows time for the discussion of strategies and misconceptions which is then followed by a Discussion session in which the teacher and student summarize the learning and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			apply the learning to a new problem. The lesson ends with a Closing and Exit Ticket where students apply their learning by completing an exit ticket or skill fluency practice to show evidence of learning. For example, in Unit 1, Lesson 16, students relate counting to addition and subtraction. Students participate in a game called "Draw and Record." Students first draw a green card with the number 8 on it and then a yellow card with the number -2 on it. Students must put together a number sentence to solve the problem (8-2= 6). Students then answer questions regarding the strategy they used. During the Workshop, students draw cards, solve the problem using a strategy of their choice, and record the equation. The Exit Ticket for this lesson includes two problems that provide the opportunity for students to show their understanding of the lesson as they complete a number sentence by selecting the correct sign (- or +). The materials also include Task Based Lessons that provide the students the opportunity to make sense of the math they have learned by working on a problem solving task. Math fluency practice is included to ensure students get sufficient practice to move towards fluency skills.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Yes**	Lessons are appropriately structured and scaffolded to support student mastery. Each lesson is appropriately scaffolded to build student understanding. The

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			introduction for the lesson develops initial understanding of the concept, the associated strategies, and the game used to practice the concept. The Workshop component of the lessons allows collaborative processing time for students. Students continue to develop understanding of the concept or strategy that is being presented in the lessons through partner discussions and hands-on learning with manipulatives (if applicable). The Discussion component (whole group) summarizes the day's learning and gives students another opportunity to share their strategies that worked for them. Closing/Exit Ticket gives students an opportunity to show evidence of student learning. The lessons across units are also appropriately structured and scaffolded. For example, in Unit 5, Lessons 1-8, students begin recognizing that when addends are repositioned the result will not change (commutative property). In Lesson 3, students add numbers and count on from the greater number. In Lessons 4 and 5, students have 3 addends of known facts. In Lessons 5-8, students make 10 using 2 or 3 addends. In Lesson 6, students use manipulatives to add to 10 and in Lesson 7, students solve by using strategies such as counting on. In Unit 6, Lessons 1-4, consist of students composing numbers 10-50 by counting by tens and ones in Lesson 1. In Lesson 2, students build on Lesson 1 and compose numbers

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			up to 90. Lessons 3 and 4 focus on decomposing numbers 10-90. In Lessons 5 and 6, students represent numbers 10-90 using sticks and dots to count by tens and ones, and use expanded notation. Finally, in Lesson 7, students determine ten more or less or one more or less than a two-digit number by using a strategy that makes sense to them. The units are also appropriately structured and scaffolded in a way to support student mastery. Unit 1 focuses on counting, saying, reading, and writing numbers within 120, understanding the counting sequence, and using counting to add and subtract. Unit 2 focuses on geometry as students identify, describe, sort, compose, and decompose two- and three-dimensional shapes. In the beginning of Unit 3, students progress towards fluency with addition and subtraction of numbers to ten as they compose and decompose addends and total amounts within ten. By the end of the unit, students solve word problems and represent word problems involving addition and subtraction within 20 using various representations. In Unit 4, students represent and interpret data by answering how many questions. In Unit 5, students continue to build on addition and subtraction by understanding the properties of addition and the equal sign. Students then develop an understanding of place value in Unit 6 and decompose numbers up to 100 in tens and ones. In

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			addition, students develop fluency for adding and subtracting multiples of tens, can find ten more or ten less than any two-digit number within 90, and compare two-digit numbers using both words and symbols. In Unit 7, students relate part-part-whole relationships developed throughout the materials to geometry as they partition circles and rectangles into two and four equal shares. At the end of the unit, students apply their understanding of fractions to tell time to the hour and half hour. In Unit 8, students focus on measuring and comparing three or more objects. Finally, Unit 9 continue building an understanding of addition and extend their learning to adding one-digit and two-digit numbers to two-digit numbers, as well as subtracting one-digit numbers from two-digit numbers.
	7f) Materials support the uses of technology as called for in the Standards.	**N/A**	The LSSM do not call for use of technology in Grade 1.
FINAL EVALUATION ***Tier 1 ratings*** receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality. ***Tier 2 ratings*** receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality. ***Tier 3 ratings*** receive a "No" for at least one of the Non-negotiable Criteria.			
Compile the results for Sections I and II to make a final decision for the material under review.			
Section	**Criteria**	**Yes/No**	**Final Justification/Comments**
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	Materials devote a large majority of time to major work of the grade. Materials spend the appropriate amount of time on grade-level work, while assessing grade-

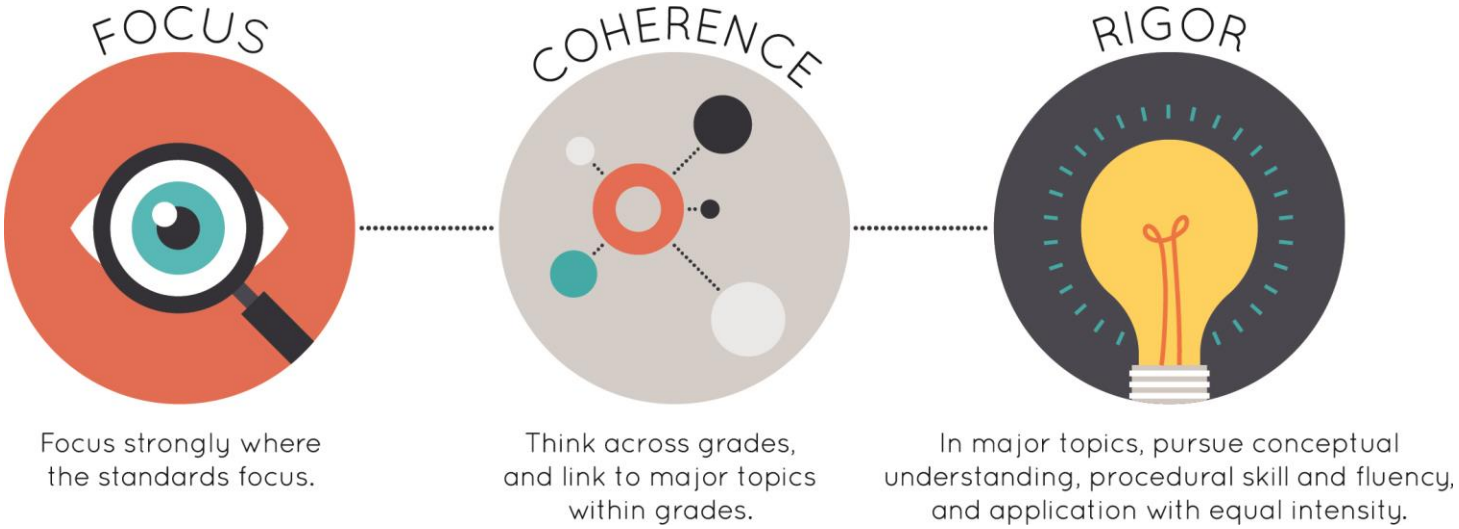
[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			level standards. The assessment components do not make students or teachers responsible for topics before the grade level in which they are introduced.
	2. Consistent, Coherent Content	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year for the majority of the time. Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade-level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	Materials develop conceptual understanding of key mathematical concepts for Grade 1. Materials are designed so that students attain the fluencies and procedural skills required by the LSSM for Grade 1. Materials are designed so that students spend sufficient time working with engaging applications. It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately.
	4. Focus and Coherence via Practice Standards	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade.
II: Additional Criteria of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	Materials provide students extensive work with grade-level problems. Materials relate grade-level concepts explicitly to prior knowledge from earlier grades. The materials are designed so

[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			that prior knowledge becomes reorganized and extended to accommodate the new knowledge. Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.
	6. Alignment Criteria for Standards for Mathematical Practice	**Yes**	Materials attend to the full meaning of each practice standard. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key Grade 1 mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.
	7. Indicators of Quality	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Materials provide separate teacher materials that support and reward teacher study. The underlying design of the materials distinguishes between problems and exercises. Lessons are appropriately structured and scaffolded to support student mastery. However, materials do not include support for English Learners and other special populations. The LSSM do not call for use of the technology in Grade 1.
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Strong mathematics instruction contains the following elements:



Title: **Achievement First Math**

Grade/Course: **2**

Publisher: **Achievement First**

Copyright: **2019**

Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Alignment Criteria for Standards for Mathematical Practice	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality **Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.**			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials should devote the large majority of class time to the major work of each grade/course. Each grade/course must meet the criterion; do not average across two or more grades.	**Yes**	Materials devote a large majority of time to major work of the grade. Of the 129 instructional lessons, 79% address major work of the grade. Specifically, 67% address major standards alone, 12% address a combination of major and supporting/additional standards, and 21% address supporting and additional standards.
	Required **1b)** In any one grade/course, instructional materials should spend minimal time on content outside of the appropriate grade/course. Previous grade/course content should be used only for scaffolding instruction. In assessment materials, there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.	**Yes**	Materials spend minimal time on content outside of the appropriate grade-level. In assessment materials, assessment components do not make students or teachers responsible for any topics before the grade level in which they are introduced. Lessons are aligned to the Grade 2 LSSM and the assessments are grade-level appropriate. The forms of assessments include Exit Tickets for most lessons, task questions, and End of Unit Assessments. The materials include a Fluency and Practice Workbook that allows teachers the opportunity to view student understanding based on the work in the book. The Fluency Workbook includes the fluency standards of the grade level. The materials also include a guide to implementing the curriculum.

[2] For more on the major work of the grade, see Focus by Grade Level.

[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			The Implementation Guide has a breakdown of the lessons for each unit and daily schedules that include estimated time to spend on grade level fluency and the lesson. The guide provides indicators for each lesson and includes remediation lessons, enrichment lessons, and on-grade-level lessons. The majority of the lessons are on grade-level and assessments focus on grade-level standards. Remediation lessons are clearly labeled as optional and include a rationale for using the lesson. For example, Unit 3, Lessons 1-3 are labeled as Remediation Lessons and include the note, “Lessons 1-3 focus on problem types that should have been mastered in K-1, according to the standards. These lessons should only be used for remedial purposes.” The Unit 2 Assessment assesses LSSM 2.MD.A.1, 2.MD.A. 2, 2.MD.A. 3 2.MD.A.4, 2.MD.B.6 which are all addressed throughout Unit 2 before students are given the Unit Assessment. In Lesson 1, students learn to measure first with centimeter cubes and then progress to measuring with a centimeter ruler in Lesson 4 and with an inch ruler in Lesson 10. In the Unit 3 Assessment, students use addition and subtraction within 100 to solve one and two step word problems and use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units by using drawings (such

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			as drawings of rulers) and equations with a symbol for the unknown number to represent the problem (LSSM 2.OA.A.1, 2.MD.B.5). In Unit 6, Lesson 13, students use place value understanding and use symbols, words and numbers to compare three digit numbers (LSSM 2.NBT.A.4).
Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and consistent with the content in the Standards. ☒ Yes ☐ No	**Required** **2a)** Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year the majority of the time. The supporting content standards for Grade 2 include work with equal groups of objects to gain foundations for multiplication (LSSM 2.OA.C), work with time and money (LSSM 2.MD.C), and represent and interpret data (LSSM 2.MD.D). Unit 4, Data, focuses on collecting and displaying data in a variety of ways. Students organize and represent data and then interpret the data by answering questions connecting supporting LSSM 2.MD.D.10 to major LSSM 2.OA.A.1. For example, in Lesson 3, students create bar graphs and then answer questions regarding the data. In the first problem during Independent Practice, students create a bar graph with provided data about animal classification and answer questions such as "How many more animals are birds than reptiles? How many fewer animals are reptiles and fish than mammals?" In the third problem, students first correct a mistake on the graph and then answer questions

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			such as "If 3 more grassland animals and 4 more arctic animals are added to the graph, how many grassland and arctic animals would there be?" In Unit 5, Length, Money, Graphing, and Time, students solve problems involving money, time, and measurement data connecting 2.MD supporting standards to 2.OA and 2.NBT major standards. For example, in Lesson 4, students find equivalent values for a given number of coins connecting supporting LSSM 2.MD.D.8 to major LSSM 2.NBT.A.1-2. For example, students identify various ways to show the total amount of coins such as 28 cents and 54 cents. In the following lesson, students add coin amounts up to a dollar and answer word problems involving the addition of different coins connecting supporting LSSM 2.MD.C.8 to major LSSM 2.OA.A.1. In Lesson 13, students read an analog clock and tell and write time to the nearest 5 minute mark by using skip counting connecting supporting LSSM 2.MD.C.7 to major LSSM 2.NBT.A.2. During the lesson, students build the understanding that every time the minute hand hits a number on the clock each number is 5 more minutes, and that once the minute hand goes around the whole clock one hour or 60 minutes has passed.
	Required **2b)** Materials include problems and activities that serve to connect two or more clusters in a domain, or two or	**Yes**	Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade level where these connections

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	more domains in a grade/course, in cases where these connections are natural and important.		are natural and important. Unit 8, Lesson 3 connects clusters B (Add and subtract within 20) and C (Work with equal groups of objects to gain foundations for multiplication) of the Operations and Algebraic Thinking (OA) domain. In the lesson, students use manipulatives to put equal groups into arrays with equal rows and columns. Students then represent the arrays with repeated addition sentences (LSSM 2.OA.C.4, 2.OA.B.2). For example, during independent practice, students are presented with a scattered image of 15 objects. Students are instructed to circle equal groups, redraw the groups as rows, and then write a repeated addition sentence to match. Unit 3, Lesson 9 connects the Operations and Algebraic Thinking (OA) and the Measurement and Data (MD) domains. During the lesson, students use various strategies to solve two step story problems that involve add to, take from, result unknown problems (LSSM 2.OA.A.1). In the Workshop portion of the lesson, students answer questions such as "Gabriel ran 34 meters. He stopped for a drink and then ran 18 more meters. He stopped to tie his shoe and ran 23 meters. How many meters did he run in all?" (LSSM 2.MD.B.5).
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet	**Required** **3a) *Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for explicitly in specific content standards or cluster headings by amply	**Yes**	Materials develop conceptual understanding of key mathematical concepts. The materials provide students the opportunity to develop conceptual

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	featuring high-quality conceptual problems and discussion questions.		understanding of key mathematical concepts throughout ten units. In Unit 2, students engage in activities to develop the conceptual understanding of measurement and relate addition and subtraction to length. Specifically, in Unit 2, Lesson 5, students use M&Ms to represent a centimeter and the visualization of the length from the tip of their finger to the opposite shoulder to represent a meter. They use this understanding to estimate and answer questions such as, "Use a mental benchmark to estimate the length of each line in centimeters. Then use a ruler to record the actual length of each line to the nearest centimeter." (LSSM 2.MD.A.3). In Lesson 6, students build on this understanding as they compare the length of two objects and determine how much longer or shorter one object is than another. Students engage in several measurement problems by measuring the length of two lines and determining which is shorter, and by how much. This is followed by word problems such as, "Moises ran 65 meters on Sunday. On Monday, Moises ran 27 meters further than he did on Sunday. How many meters did he run on Monday?" Unit 7 focuses on developing students' conceptual understanding of addition and subtraction with multi-digit numbers within 1,000. Students extend place value strategies for addition and subtraction

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			within 100 to larger numbers. Students use a variety of strategies throughout the unit such as using flats, sticks, and dots, expanded notation, a number line, add by place, unknown addend, and compensate. Specifically, Unit 7, Lesson 18, focuses on understanding why addition and subtraction strategies work, using place-value and the properties of operations (LSSM 2.NBT.B.9). Students solve three-digit addition and subtraction problems using a strategy of their choice and explain the strategy they choose. Students also explain their work by including the correct answer and the math idea that helped them solve the problem. For example, students solve 431 + 369 using a strategy of their choice. Then, students must explain how they solved the problem using the chosen strategy. In Unit 8, Lesson 7, students begin to explore even and odd numbers through pictures and define numbers as even or odd depending on whether they can be represented in two equal groups or groups of two without leftovers. In Lesson 8, students use manipulatives to make pairs or teams. Students begin to label the addends on equations as even or odd and predict whether the answer will be even or odd. Students draw rectangular arrays to solve the equation. Students answer questions such as “Kevin says that if he adds 3 to any odd number his answer will be an even number. Do

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			you agree with him? Explain your thinking using pictures and words" (LSSM 2.OA.C.3).
	Required **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students attain the fluencies and procedural skills required by the Standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.	**Yes**	Materials are designed so that students attain the fluencies and procedural skills required by the LSSM for Grade 2. Opportunities to attain fluency and procedural skills are present in a Fluency Practice Workbook for each unit. The Guide on Implementing AF Math Grade 2 states fluency opportunities are completed after the lesson for 10 minutes daily. For example, fluencies that coincide with LSSM 2.NBT.B.5 are located in the Fluency Workbook. Fluency activities are provided for students to complete during the fluency portion of the lesson. On page 30 students answer questions such as, "Solve using a number line. 28 + 36 = ____." In Grade 2, students are required to fluently add and subtract within 100 using addition and subtraction strategies (LSSM 2.NBT.B.5), fluently add and subtract within 20 using mental strategies, and know from memory all sums of two one-digit numbers (LSSM 2.OA.B.2). These fluency standards are evident throughout the instructional materials. The lessons provide opportunities for students to repeatedly practice toward attainment of the standards. For example, in Unit 1, Lesson 8, students represent two digit numbers using strategies such as sticks and dots and expanded form. Students take the

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			value of each digit and write it as an addition equation. For example, 23 is 2 tens and 3 ones, so 20 + 3 = 23. In Unit 1, Lessons 9 and 10, students regroup 10 ones into a 10 and a 10 into 10 ones. In Lessons 11 and 12, students add 2-digit numbers with no regrouping and begin regrouping in Lessons 13 and 14. Students continue on with addition and subtractions problems using place value, dots and sticks, and expanded notation. By Lesson 25, students solve two digit addition problems with missing addends and then subtraction problems with missing subtrahends in Lesson 26 (LSSM 2.NBT.B.5). The teacher's guide suggests that students complete the Fluency Workbook to ensure sufficient practice towards fluency with LSSM 2.NBT.A.2, 2.OA.B.2, and 2.NBT.B.5. Unit 2 focuses on measurement and provides the opportunity for students to build procedural skill of measuring the length of objects using appropriate tools (LSSM 2.MD.A.1). Throughout the lessons, students measure objects and apply this skill as they build skill and understanding of additional standards such as LSSM 2.MD.A.2 and 2.MD.A.4. For example, in Lesson 7, students measure pictures of objects using multiple inch tiles by laying down tiles from the start of the object to the end of the object. Students are instructed to be precise/accurate in their measurements. Teachers are instructed

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			to have students complete the Fluency Workbook to ensure sufficient practice towards fluency of LSSM 2.MD.A.1, 2.MD.A.2, and 2.MD.A.4.
	Required **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content Standards where expectations for multi-step and real-world problems are explicit.	**Yes**	Materials are designed so that students spend sufficient time working with engaging applications. The materials provide students the opportunity to use strategies they have learned to solve real-world word problems in a meaningful way. Grade 2 has four application standards, LSSM 2.OA.A.1, 2.MD.B.5, 2.MD.C.8 and 2.MD.D.10. For example, in Unit 3, Lesson 8, students accurately represent and solve story problems using a strategy of their choice. For example, students solve the following problem: "Henry has 48 shirts to fold. He folded 15 short sleeve shirts and 21 long sleeve shirts. How many shirts does Henry have left to fold?" This multi-step problem involves students adding up how many shirts Henry has already folded and then subtracting from the total number of shirts he began with. Students write a number sentence to represent the problem: 21 + 15 = 36 and 48 - 36 = 12 (LSSM 2.OA.A.1). Unit 3, Lessons 5-6 focus on using addition and subtraction within 100 to solve word problems involving lengths (LSSM 2.MD.B.5). In Lesson 5, students solve one-step word problems such as "Ms. Sisto knit a scarf that is 19 inches longer than Mrs. Turner's scarf. Ms. Sisto's scarf is 42 inches. How long is

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Mrs. Turner's scarf?" Students continue to apply conceptual understanding and procedural skill in Lesson 6 as they solve one-step word problems involving length using a number line. They solve problems such as "Mr. Cassidy has knitted 36 inches of a scarf she wants to be 58 inches long. How many more inches does she need to knit?" Students are presented with a number line to use and steps to solve that include "Visualize, Represent, Retell, Solve, and Finish the Story." In Unit 4, Lesson 3, students generate and organize data, create bar graphs, and answer questions relating to the data (LSSM 2.MD.D.10). For example, after creating a bar graph using data about animal classification, students answer the questions, "How many more animals are birds than reptiles?"
	Required **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately. Lessons are designed to be taught in two parts totaling 55 minute blocks: 45 minutes for the Math Lesson and 10 minutes for Math Fluency. Although procedural skill and fluency is developed in many of the lessons, students have frequent opportunities to practice procedural skills and fluency during the Math Fluency portion of the lesson. The majority of the standards for Grade 2 focus on conceptual understanding and procedure skill and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			fluency as students are building on concepts they have previously learned in Kindergarten and Grade 1 and developing a deeper understanding of those concepts. The materials reflect this balance and engage students in application problems when appropriate. In Unit 7, students build conceptual understanding of addition and subtraction within 1,000 using concrete models or drawings and strategies (LSSM 2.NBT.B.7). In Lesson 17, students use this knowledge to solve procedural problems such as __ + 387 = 902. In this lesson students use strategies that work best for them to solve the problems. These strategies include using flats, sticks, and dots; expanded notation; or number lines. In addition, students complete the Fluency Workbook in order to enhance these skills. In Unit 3, Lesson 10, students represent and solve two-step addition and subtraction story problems by following the story problem protocol using a strategy that makes sense to them addressing the application component of LSSM 2.OA.A.1. After students build a conceptual understanding of addition and subtraction strategies, students continue to build fluency of adding and subtracting within 20 as they complete problems such as 5+6, 9+10, and 18-9 (LSSM 2.OA.B.2).
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:**	**Required** **4a)** Materials address the practice standards in such a way as to enrich the content standards of the	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade. The Unit

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. ☒ Yes ☐ No	grade/course; practices strengthen the focus on the content standards instead of detracting from them, in both teacher and student materials.		Overview provides a description for how the practice standards are utilized throughout the unit. Additionally, each lesson lists the practice standards specific to that lesson. The practices are utilized in a way to enrich the content standards and not detract from them. For example, in Unit 9, Students make use of the part–whole structure to understand that a whole unit can be partitioned into equal shares, or smaller units (LSSM 2.G.A.3). In Lesson 4, students solve problems such as "Some students in Ms. Brown's class forgot to bring a snack on their field trip. Alfonso said he would share his brownie equally with 3 friends so that he gets a piece and each friend gets a piece. Show how Alfonso could cut his brownie to share it equally." Students work together in order to draw how Alfonso could cut the brownies. Students attend to precision to make sure each person gets an equal amount of brownie (MP.6). Students will engage in a discussion arguing whether each person represented the questions correctly by how they divided the brownies. Students explain what is correct/incorrect about each drawing (MP.3). In Lesson 5, students partition circles into two, three, or four equal shares. To be successful, students must attend to precision (MP.6) when partitioning the circles into halves, thirds, and fourths. Students must identify and write the fraction of the visual model they

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			have drawn. For example, during the lesson, students have to use the correct number of shapes to build a bigger shape to represent the given fraction (MP.7). The repetition from the lesson builds students' understanding as to why 4 fourths equal a whole (MP 8). Unit 4, Lesson 4, addresses LSSM 2.MD.10. During the lesson, students attend to precision (MP.6) and model with mathematics (MP.4) by creating graphs. This enhances the standard as students are able to collect their own data from classmates and create their own chart that will require them to ensure that their drawings are precise and that all items are represented on the graph.
Section II: Additional Criteria of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No	**Required** **5a)** Materials provide all students extensive work with course-level problems. Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**Yes**	Materials provide all students extensive work with grade-level problems. The instructional materials connect grade-level standards by progressing from learning strategies to add and subtract within 20 in Unit 1 and by connecting learning to measure length in Unit 2 to using place value to add and subtract two digit numbers in Unit 6. The Implementation Guide labels which lessons are on grade level and which are remedial lessons. Each of the remedial lessons are labeled and rationale is given as to why the lesson is considered remedial and the type of action teachers should take when teaching this lesson. For example, Unit 1, Lesson 1 is labeled as

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			remediation and includes the note, "The primary focus of this lesson is setting the foundation for habits in the math classroom. Students will review counting 1-100, this content is review from 1st Grade and therefore this lesson can be used for remedial purposes." There are ten units provided in the materials and each unit provides lessons that include an introduction to the standard being addressed. Each lesson in the materials is broken into parts such as introduction, workshop, mid-workshop interruption, and discussion/closure which may or may not include a fluency activity and/or exit ticket. The problems in the workshops provide students the opportunity to work with problems in a variety of formats to integrate and extend concepts and skills. The introduction gives students time to develop their understanding of the lesson through game play. Each lesson includes workshops that build on skills and concepts as students begin to develop an understanding of strategies. Discussions develop students' understanding and exit tickets provide students with an opportunity to show what they have learned, as well as provide an opportunity for teachers to assess student work and understanding. In Unit 1, students focus on LSSM 2.OA.B.2. Students begin to add and subtract within 20 using number bonds. Students then begin to represent 2-digit numbers using sticks and dots. In

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			Lessons 12 and 17, students use manipulatives to add or subtract within 20 without regrouping. In Lesson 12, students complete eighteen two 2-digit numbers. In Lesson 17, students complete twenty-four 2-digit subtraction problems. Students add and subtract with regrouping in Lessons 13 and 18. In Lesson 13, students complete sixteen two 2-digit addition problems and in Lesson 18, students complete sixteen two 2-digit subtraction problems. At the end of the unit, students are able to solve problems with missing addends or subtrahends. In Lesson 23, students complete twenty-four mixed addition and subtraction problems.
	Required **5b)** Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**Yes**	Materials relate grade-level concepts explicitly to prior knowledge from earlier grades. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge. Concepts are taught in a logical order and maintain progressions consistent with those contained within the standards. The materials are designed so that students connect prior knowledge to new concepts. The materials build on a student's understanding of skills and concepts previously learned to develop a deeper understanding of the content throughout each unit. The materials begin with adding and subtracting within 100 (LSSM 2.OA.A.1) building on their

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			previous work to 20 in Grade 1. Students previously learned strategies to add and subtract within 20, and then expand on their knowledge of addition and subtraction to learn efficient strategies to solve problems in Grade 2. In Unit 1, Lesson 5, students' prior knowledge of addition and subtraction strategies developed in Grade 1 is applied as they solve problems using number bonds, further building their understanding of the relationship between numbers in a number sentence to solve problems with missing parts. For example, when given a number sentence to solve such as 16 - __= 5, students create a number bond to help them figure out the missing part. In Unit 3, Lesson 4, students relate previous knowledge from Grade 1 by solving one- and two-step word problems involving situations where students must decide to add, subtract, or both within 100. In Grade 1, students learn that the two digits of a two-digit number represent amounts of tens and ones (LSSM 1.NBT.B.2). Students build upon prior knowledge of tens and ones to explore the idea of hundreds through different models. In Unit 6, Lesson 10 students represent and read a 3-digit number in all forms (standard, word, expanded, pictorial, unit, and base ten numeral) (LSSM 2.NBT.A.1). In Unit 9, Lesson 1, students work to partition shapes into

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			halves, thirds, and fourths (LSSM 2.G.A.3) building on LSSM 1.G.A.3.
	5c) Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.	**Yes**	Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards. The materials include ten units with multiple lessons that begin by stating the standard cluster in the lesson, listing the standards related to the lesson, as well as the mathematical practice standards used in the lesson. Each lesson has a lesson "Aim" that is shaped by the content standard(s) of the lesson. This is followed by "What Key Points" which is what students should know by the end of the lesson and "How Key Points" which focuses on student understanding needed to achieve mastery of those key points. For example, Unit 9, Lesson 6, begins by stating the cluster addressed in the unit and includes, "Reason with shapes and their attributes," reflecting cluster A of the Geometry (G) domain. The standard is then listed and defined. The "Aim" of the lesson states that students will "identify and name unit fractions by thinking about equal parts of a whole and recognizing that the same fractions can have a different shape," reflecting the intent and language of LSSM 2.G.A.3. The "What Key Points" list what one-half, one-third, and one-fourth are in terms of one part of a shape divided into so many equal parts and also includes "We can partition the same shape into the same fraction in

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			multiple ways." The "How Key Points" state, "We can identify one-half, one-third, one-fourth of a shape." and "We can use guess and check, turn the line to partition the same shape into the same fraction in multiple ways." In Unit 7, Lesson 5, the "Aim" states "SWBAT add 3-digit numbers with regrouping in two places by using expanded notation," reflecting the intent and language of LSSM 2.NBT.B.7. In Unit 4, Lesson 5, the "Aim" states that students will "analyze data on a graph by reading the graph and answering questions about the data," reflecting the language and intent of LSSM 2.MD.D.10.
6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE: Aligned materials make meaningful and purposeful connections that enhance the focus and coherence of the Standards rather than detract from the focus and include additional content/skills to teach which are not included in the Standards. ☒ Yes ☐ No	**Required** **6a)** Materials attend to the full meaning of each practice standard. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standard. Alignments to practice standards are accurate.	**Yes**	Materials attend to the full meaning of each practice standard. Each Unit Overview outlines the practice standards of the unit and includes when and how the teacher should "intentionally provide students with opportunities to practice" in the unit. The practice standards are also listed at the beginning of each lesson in the course material. For example, in Unit 4, according to the Unit 4 Overview, students have the opportunity to utilize MP.1, MP.2, MP.3, MP.4, MP.5, and MP.6. More specifically, students utilize MP.1 as they "persevere to use various addition and subtraction strategies to solve problems," MP.2 as they "take numbers that represent quantities, think of them as just numbers and perform operations to solve story problems from a graph,"

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			MP.3 as they "explain and critique how they and others use the bars/amounts in the graph to answer the compare questions," MP.4 as they "create drawings and write equations to model and solve word problems involving data," MP.5 as they "create pictographs and bar graphs to see how these are strategic and efficient ways to represent data," and MP.6 as they "label axes appropriately, include titles, and are precise in their drawing." Each practice standard in Unit 4 is meaningfully present in the form of activities. For example, MP.1, MP.2, MP.4, and MP.6 are present in Unit 4, Lesson 3, as students draw and label a bar graph to represent data with up to four categories and relate a scale to a number line. Students utilize MP.1 when they use information on the graph to solve problems based on information given. Students answer questions using the data shown in the bar graph, demonstrating MP.2. Additionally, students visually display data (MP.4) as they create and organize data in a bar graph (MP.6). In Unit 5, Lesson 11, students draw a line plot to represent measurement data and relate the scale to a number line. Students create a line plot in order to represent data and use the line plot to organize measurement data (MP.5, MP.6). In Unit 9, Lesson 6, students identify and name unit fractions by thinking about equal parts of a whole and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			recognizing that the same fraction can have a different shape (LSSM 2.G.A.3). Students partition rectangles and circles into halves in different ways. Students also partition squares and rectangles into thirds and fourths (MP.7). Students answer questions such as "Is this rectangle divided into fourths? Why or why not?" when given a picture of a rectangle that is divided into four unequal pieces (MP.3). In Unit 10, Lesson 2, students describe, build, identify, and analyze two-dimensional shapes with specified attributes (LSSM 2.G.A.1). Students use geoboards to help make/create different shapes and explain why it is an appropriate tool (MP.5). Students attend to precision (MP6) by describing and analyzing various two-dimensional shapes by attending to their specific attributes and explain their partner's shape drawings. Additionally, students use their knowledge of the number of sides and angles to identify a shape and use structures to help sort shapes by number of sides (MP.7).
	Required **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving as a form of argument, attending thoroughly to places in the Standards that explicitly set expectations for multi-step problems.	**Yes**	Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key Grade 2 mathematics that is detailed in the content standards. Each lesson has a share/discuss portion. During this section, found at the end of each lesson, students discuss their work and strategies used to

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			solve problems from within the lesson. The teacher facilitates the discussion, asking questions such as “Did this work? Why or why not? Who is correct? How did ____ figure out the total? ” The teacher also addresses misconceptions that were observed throughout the workshop as he/she was monitoring student work. Unit 6 prepares students for addition and subtraction within 1000. Within Unit 6, students accurately construct viable arguments about mathematics. During discussions about problem solving strategies, students constructively critique the strategies and reasoning of their classmates. For example, in Unit 6, Lesson 10, students use expanded form to expand the number 514. Students use a variety of strategies and, after working on the task, discuss and critique each other’s reasoning and strategies and cite similarities and differences between strategies. For example, students may say 51 tens and 4 ones, 514 ones, 500 and 14 ones. In Unit 1, Lesson 7, students discuss their work and strategies used to solve problems in the lesson. The teacher facilitates the discussion, asking questions such as “Did this work? Why or why not?” The teacher also addresses misconceptions that were observed throughout the workshop as he/she was monitoring student work by facilitating a discussion by asking students questions such as “What is the same/different

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			about how they solved? Why do they both work?" In Unit 5, Lesson 3, students solve story problems involving the value of coins by following the story problem protocol. An example from the Lesson is "Gisselle has 37 cents. She finds a nickel, 1 quarter, 3 pennies, and 2 dimes. How much money does she have now?" The teacher asks how the student represented and solved the problem. As students listen to the answer they will think about whether or not they agree, why or why not, what information could provide clarification, and reason as to why the student chose that way to organize their data (LSSM 2.MD.C.8).
	6c) There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.	**No**	Materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Aligned practice standards are listed and described in the Unit Overview and include the way in which students authentically develop the math practices across the whole unit. The practices specific to a lesson are listed at the start of the lesson. However, the materials do not state a purpose and intent for the practice standards within each lesson. The only guidance on how the students should utilize the practice standards is provided in the Unit Overview. Without specific guidance in the lessons, the materials do not support teachers in helping students develop the math

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			practices over time. Guidance is not provided in such a way to help teachers identify other opportunities to develop the practices in other areas.
	6d) Materials explicitly attend to the specialized language of mathematics.	**Yes**	Materials explicitly attend to the specialized language of mathematics. Mathematical vocabulary for the entire unit can be found in the Unit Overview Sections and provides the definition for each vocabulary word. The vocabulary words for Unit 10 include the terms polygon, quadrilateral, face, edge, triangle, and rhombus. In Unit 10, Lesson 1, students build, identify, and analyze triangles, quadrilaterals, pentagons, hexagons. By the end of the lesson, students identify triangles, pentagons, and hexagons based on their attributes. Students use their knowledge of the shapes learned in Unit 10, Lesson 1 to contribute to solving problems in Unit 10, Lesson 5. For example, in the workshop, students apply knowledge of shapes and other mathematical operations to solve the following problem: “Ava makes three quadrilaterals using pasta and gumdrops. Chris makes three pentagons using pasta and gumdrops. Natalie makes two hexagons using pasta and gumdrops. Ava, Chris, and Natalie use a gumdrop for a vertex. Ava, Chris, and Natalie use pasta for a side. Ava says they will each use the same number of gumdrops and pasta to make their shapes. Natalie says Chris will use more. Who is correct, Ava or

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Natalie?" The Unit 4 overview lists and defines the following terms: survey, bar graph, pictograph, scale, key, tally marks, and categories. During the unit, students collect, organize, and display data in different ways. Students analyze the data and answer one- and two-step problems based on the data and graphs while using terms developed over the course of the unit. Students are also expected to understand math terminology on the assessments. On the Unit 10 assessment, students identify shapes using the vocabulary terms they have previously learned in the unit. For example, an assessment question asks students to circle the quadrilateral. Students must be able to identify the attributes of a quadrilateral to choose the appropriate answer. Another question gives students the attributes of a shape and they must build the shape as well as name the shape.
7. INDICATORS OF QUALITY: Quality materials should exhibit the indicators outlined here in order to give teachers and students the tools they need to meet the expectations of the Standards. ☒ Yes ☐ No	**Required** **7a)** There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Students are asked to produce answers and solutions in discussion, diagrams, and mathematical models. For example, in Unit 7, students learn how to partition a number in different ways to solve multi-digit addition and subtraction equations. Students partition numbers with number bonds to increase fluency and aid in solving problems with missing addends and subtrahends. They also partition

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			three-digit numbers concretely with place value blocks, pictorially with flats, sticks and dots, and abstractly with expanded form. In Unit 7, Lesson 9, students subtract within 100 using flats, sticks, and dots. Students solve 3-digit subtraction problems with regrouping in one place. Students model the problem and show regrouping by drawing flats, sticks, and dots. In Unit 8, students express group totals in a variety of ways. Students 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 and then write an equation to express an even number as a sum of two equal addends. Additionally, students use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns and write an equation to express the total as a sum of equal addends. In Unit 8, Lesson 3, Workshop, students work with counters to create arrays when given the number of groups. They then have to fill in the blank and tell how many final rows of ___ counters to equal the final total. Students then move on to independent practice where they work with pictorial models to create groups and arrange them in rows. Students complete an analysis and explain who has more triangles based on the arrays given. There is a variety in what students produce in the assessments, as well. For example, on

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the Unit 7 Assessment, students use the strategies they have learned throughout the unit to solve problems. A few problems on the assessment are computation problems that provide the opportunity for students to solve addition and subtraction problems such as 503 - 215 using any strategy. Students are also required to build a number line to solve addition and subtraction problems, as well as explain how they solved a problem using what they know about place value.
	Required **7b)** There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of student responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Yes**	Materials provide separate teacher materials that support and reward teacher study. The materials contain a "Guide to Implementing AF Math: Grade 2." This guide provides information about the lesson structures, unit lessons, daily aims (objectives), and aligned standards. The Implementation Guide can be used to further inform teachers about how to ensure students achieve the fluencies and procedural skills required by the Louisiana State Standards. The Guide provides a potential weekly and daily schedule. Math lessons are recommended for 50 minutes and Math Fluency for 10 minutes; totaling 60 minutes of instructional time. Each unit also includes its own Unit Overview with more detailed information for the teacher. This document provides standards, previous grade level standards, enduring understandings, a narrative version of the learning, models and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			visuals of learning, and math practice standard connections. The Narrative describes the ways in which students will develop their understanding of the content over the course of the unit and is followed by key strategies. Additionally, it provides information about previous learning and learning challenges including pre-requisite skills, potential misconceptions (with clarifications), and a detailed lesson sequence. Each Unit Overview also includes relevant teacher background cited directly from other sources, such as the Common Core Standards Progression Document. For example, the Unit 8 Overview identifies the standards addressed in the unit and includes LSSM 2.OA.C.3, 2.OA.C.4, and 2.G.A.2. Guidance is provided on what this looks like in the lesson such as "Students understand that an even number can be partitioned into 2 equal groups and into groups of two with none leftover." The Narrative details the progression of learning within the unit and provides examples and pictures of key strategies used during the unit, such as using manipulatives as equal groups, drawing as equal groups, arrays to show equal groups, and rectangular arrays to show equal groups. A learning progression graphic is provided, followed by examples of Standards for Mathematical Practices utilized in the lesson. For example, students look for

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			and make use of structures as they "compose and decompose arrays, they recognize that the array structure is a collection of rows or columns and that either can be seen as a unit." Additionally, prerequisite skills, such as "Fluently add and subtract within 20" and "Understand that equal means all groups have the same amount" are provided.
	7c) Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	**No**	Materials do not include support for English Learners and other special populations. The materials do provide the opportunity for diverse learning support through extension activities as well as interventions through noted misconceptions and understandings in the lessons; however, in the Unit Overviews and lessons, support for English Learners was not evidenced. For example, the Unit 6 Overview provides unit vocabulary in English as well as major misconceptions and clarifications, but supports are not offered for English Learners. In Unit 7, Lesson 4, suggestions for misconceptions are provided; however there is no evidence of support for English Learners.
	7d) The underlying design of the materials distinguishes between problems and exercises. In essence, the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	**Yes**	The underlying design of the materials distinguishes between problems and exercises. As explained in the "Guide to Implementing Achievement First: Grade 2" the materials incorporate three different lesson structures: Game Introduction Lesson, Exercise Based Lesson, and Task Based Lesson. Each

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Game Introduction Lesson begins with an introduction to help students focus on the lesson's concept and strategies. This is followed by a workshop that allows students to develop understanding of the lesson's concept and strategies. The teachers and students then engage in a Mid-Workshop Interruption that allows time for the discussion of strategies and misconceptions which is then followed by a Discussion session in which the teacher and student summarize the learning and apply the learning to a new problem. The lesson ends with a Closing and Exit Ticket where students apply their learning by completing an exit ticket or skill fluency practice to show evidence of learning. In the Exercise Based Lessons, students are first introduced to the new learning and then engage in a Workshop to continue developing understanding. This is followed by a Discussion session to discuss strategies and misconceptions. Students then engage in Independent Practice applying the math they learned during the lesson. This type of lesson also ends with a Closing and Exit Ticket. For example, in Unit 5, Lesson 13, students tell time to the nearest 5 minutes by looking at the position of the hands on the clock. The teacher introduces the topic and engages the students in learning by asking several questions about how to tell time to the nearest five minutes. Students then engage in the

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Workshop to develop understanding which is followed by a Discussion to discuss strategies and misconceptions. Students then engage in Independent Practice to apply the new knowledge by reading clocks and writing the time to nearest five minutes, circling the time that each clock shows, and answering a word problem involving telling time. The materials also include Task Based Lessons that provide the students the opportunity to make sense of the math they have learned by working on a problem solving task. Math fluency practice is included to ensure students get sufficient practice to move towards fluency skills.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Yes**	Lessons are appropriately structured and scaffolded to support student mastery. Each lesson is appropriately scaffolded to build student understanding. The introduction for the lesson develops initial understanding of the concept, the associated strategies, and the game used to practice the concept. The Workshop component of the lessons allows collaborative processing time for students. Students continue to develop understanding of the concept or strategy that is being presented in the lessons through partner discussions and hands-on learning with manipulatives (if applicable). The Discussion component (whole group) summarizes the day's learning and gives students another opportunity to share their strategies that

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			worked for them. Closing/Exit Ticket gives students an opportunity to show evidence of student learning. The lessons across units are also appropriately structured and scaffolded. For example, in Unit 1, Lesson 1, students review counting, writing, and reading numbers 1-100 as a review from Grade 1. In Lesson 2, students add within 20 using a number bond, then students subtract within 20 using a number bond in Lesson 3. In Lessons 4 and 5, students continue using number bonds, but work with missing addends and subtrahends. By Lessons 6 and 7, students are expected to fluently add and subtract within 20. Students learn to represent two-digit numbers using dots and sticks in Lesson 8 and use this understanding to regroup a ten into ten ones or ten ones into a ten in Lessons 9 and 10. Students then add two-digit numbers using sticks and dots or expanded notation, first with no regrouping, then move into regrouping and then onto adding on a number line in Lessons 9-16. In Lesson 17, students begin to subtract using the same strategies as used for addition. In Lesson 24, students add and subtract using a strategy that makes sense to them out of the strategies learned throughout Unit 1. The units are also appropriately structured and scaffolded in a way to support student mastery. In Unit 1, students further develop their understanding of part-part-

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			whole relationships to solve two-digit addition and subtraction problems using pictorial and abstract representations with a focus on place value. In Unit 2, students further develop their understanding of measurement as they relate addition and subtraction to length. In Unit 3, students use various strategies as they solve complex word problems involving addition and subtraction with 100. Students also solve word problems involving length, money, and data. In Unit 4, students collect and display data in different representations and build on problem solving skills as they answer questions about the data. In Unit 5, students build upon knowledge learned about measurement and extend to money, time, and line plots. Unit 6 prepares students to add and subtract within 1,000 using place value knowledge and addition properties. Students strengthen their place value knowledge by representing, reading, saying, writing, and comparing three-digit numbers. Then, in Unit 7, students build upon this place value understanding by composing and decomposing place value units to add and subtract within 1,000. In Unit 8, students begin to develop an understanding of equal groups. During the unit, students draw equal groups, use repeated addition, and construct arrays, and also develop an understanding of even and odd numbers. In Unit 9,

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			students build upon their understanding of part-whole relationships as they compose and decompose shapes to develop an understanding of unit fractions as equal parts of a whole. Finally, in Unit 10, students identify, recognize, and draw shapes with specific attributes.
	7f) Materials support the uses of technology as called for in the Standards.	**Yes**	The LSSM do not call for use of the technology in Grade 2.
FINAL EVALUATION ***Tier 1 ratings*** receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality. ***Tier 2 ratings*** receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality. ***Tier 3 ratings*** receive a "No" for at least one of the Non-negotiable Criteria.			
Compile the results for Sections I and II to make a final decision for the material under review.			
Section	**Criteria**	**Yes/No**	**Final Justification/Comments**
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	Materials devote a large majority of time to major work of the grade. Materials spend the appropriate amount of time on grade-level work, while assessing grade-level standards. The assessment components do not make students or teachers responsible for topics before the grade level in which they are introduced.
	2. Consistent, Coherent Content	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year for the majority of the time. Materials include problems and activities that connect two or more clusters in a domain and/or two or more

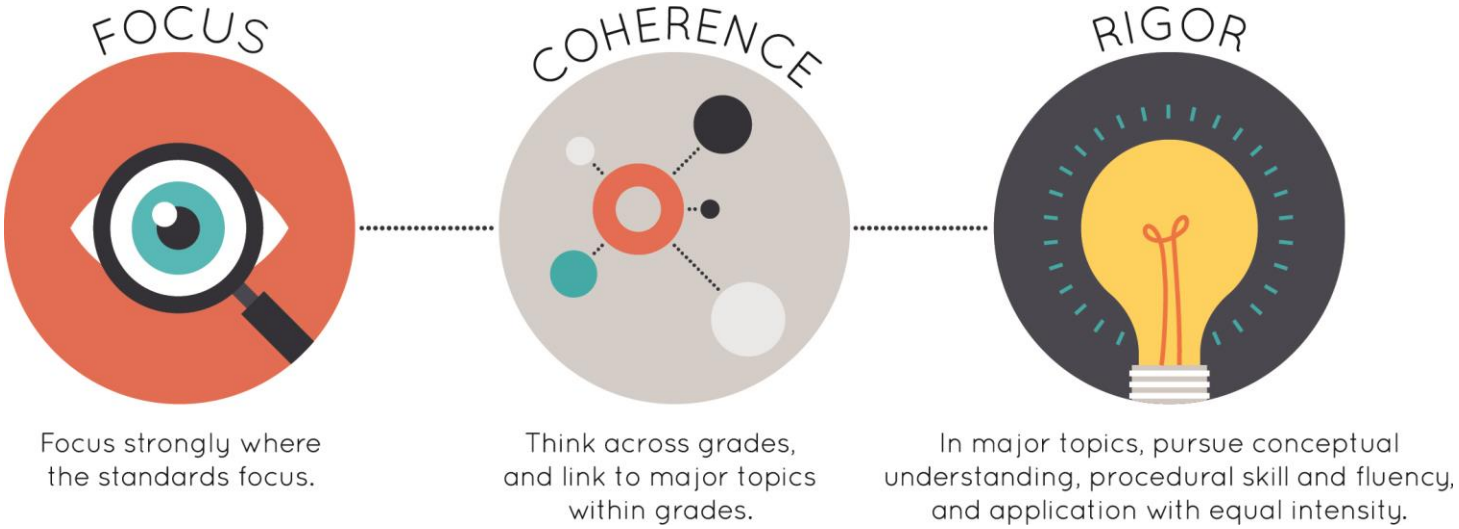
[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			domains in the grade-level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	Materials develop conceptual understanding of key mathematical concepts for Grade 2. Materials are designed so that students attain the fluencies and procedural skills required by the LSSM for Grade 2. Materials are designed so that students spend sufficient time working with engaging applications. It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately.
	4. Focus and Coherence via Practice Standards	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade.
II: Additional Criteria of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	Materials provide students extensive work with grade-level problems. Materials relate grade-level concepts explicitly to prior knowledge from earlier grades. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge. Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.
	6. Alignment Criteria for Standards for Mathematical Practice	**Yes**	Materials attend to the full meaning of each practice standard. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key

[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Grade 2 mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.
	7. Indicators of Quality	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Materials provide separate teacher materials that support and reward teacher study. The underlying design of the materials distinguishes between problems and exercises. Lessons are appropriately structured and scaffolded to support student mastery. However, materials do not include support for English Learners and other special populations. The LSSM do not call for use of the technology in Grade 2.
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Strong mathematics instruction contains the following elements:



Title: **Achievement First Math**

Grade/Course: **3**

Publisher: **Achievement First**

Copyright: **2019**

Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Alignment Criteria for Standards for Mathematical Practice	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality **Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.**			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials should devote the large majority of class time to the major work of each grade/course. Each grade/course must meet the criterion; do not average across two or more grades.	**Yes**	Materials devote a large majority of time to the major work of the grade. Of the lessons presented over 9 units, 71% of instructional time is devoted to major work of the grade. Specifically, 64% are devoted to major standards, 7% are devoted to a combination of major and additional/supporting standards, and 29% are devoted to additional and supporting standards. Specific focus in third grade should be given to the operations of multiplication and division, the introduction of formal fraction concepts, and the concepts of area and perimeter. In Units 1 and 7, students work with understanding the concepts of multiplication and division with various units. In Unit 1, 21 of the 24 lessons are devoted to major work standards for grade 3. Standards addressing operations and algebraic thinking in Unit 1 include: LSSM 3.OA.A.1, 3.OA.A.2, 3.OA.A.4, 3.OA.A.5, 3.OA.A.6, 3.OA.A7a. Unit 5 contains 25 lessons, all of which address major standards related to fractions: LSSM 3.NF.A.1, 3.NF.A.2, 3.NF.A.3. Unit 7 contains 21 lessons, all of which address major standards including the remaining

[2] For more on the major work of the grade, see Focus by Grade Level.

[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Grade 3 Operations and Algebraic Thinking (OA) standards. Unit 8 contains 13 lessons, all of which address major LSSM 3.OA.D.8 and 3.OA.D.9.
	Required **1b)** In any one grade/course, instructional materials should spend minimal time on content outside of the appropriate grade/course. Previous grade/course content should be used only for scaffolding instruction. In assessment materials, there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.	**Yes**	Materials spend minimal time on content outside of the appropriate grade-level. In assessment materials, assessment components do not make students/teachers responsible for any topics before the grade-level in which they are introduced. Of the nine units, there are no lessons devoted to standards outside of the Grade 3 LSSM. Of the nine unit assessments, there are no assessment items addressing standards outside of the grade-level. For example, in Unit 3, Lesson 13, students show mastery of the lesson by completing an exit ticket which requires them to read the time 8:04 on an analog clock and label the time on a number line diagram. Students also read another analog clock and explain how they determined the time (LSSM 3.MD.A.1). This work provides an appropriate grade-level scaffold to the work in Unit 3, Lesson 14, in which students must create their own number line to help solve elapsed time problems (LSSM 3.MD.A.1). On the post-assessment for Unit 4, students read, estimate, add, subtract, multiply, and divide measurement quantities as required by LSSM 3.MD.A.2 without going beyond the expectations of the standard.

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Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and consistent with the content in the Standards. ☒ Yes ☐ No	**Required** **2a)** Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. For example, in Unit 5, Lessons 1-8, students partition wholes into equal parts, identify and represent unit fractions, identify and represent non-unit fractions, and identify and represent fractions greater than one whole connecting supporting LSSM 3.G.A.2 to major LSSM 3.NF.A.1. In Unit 5, Lesson 4, students solve the following problem, "Allie's birthday cake is shown below. Allie eats two parts of her birthday cake. Shade in the fraction of the cake Allie eats. What is the name of this fractional part?" Additionally, in Unit 6, the first six lessons address LSSM 3.MD.B.4. The lesson connects to and builds off major LSSM 3.NF.A.2 which was first addressed in Unit 5, Lessons 13-19. For example, in Unit 5, Lesson 13 and 14, students place fractions on a number line between 0 and 1 by partitioning the line into equal parts. In Lessons 14-19, students place fractions on a number line by partitioning the line between whole numbers into equal parts. Students use the knowledge of fractions on a number line in Unit 5 and then apply this understanding in Unit 6 as they generate measurement data by measuring objects to the nearest quarter of an inch and create a line plot with halves and fourths of an inch. For example, in Unit 1, Lesson 6, students

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			create a more precise ruler by partitioning an eight-inch paper ruler into whole inches, half-inches, and quarter-inches. Students use major work developed in Unit 5 of partitioning a number line into equal parts to understand how to create the ruler. Students then use the ruler to measure objects. Students continue measuring objects to the nearest quarter-inch through Lesson 3. Lessons 4 focuses on interpreting measurement data on a line plot, while Lesson 5 focuses on creating line plots. The learning culminates in Lesson 6, as students measure objects to the nearest quarter inch, create line plots based on the measurement date, and then interpret the data, connecting supporting 3.MD.B.4 to major LSSM 3.NF.A.2
	Required **2b)** Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade/course, in cases where these connections are natural and important.	**Yes**	Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade level where these connections are natural and important. Unit 1 connects the Operations and Algebraic Thinking (OA) and Measurement and Data (MD) domains by linking the concepts of multiplication and area. For example, in Unit 1, Lesson 11, students tile an area model of a figure into rows and columns to develop related multiplication sentences to find the areas of figures, including those that have missing tiles. Students develop the understanding of

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			how and why multiplication is used to calculate area. Unit 1, Lessons 13 through 16 connects clusters A (Represent and solve problems involving multiplication and division) and B (Understand properties of multiplication and the relationship between multiplication and division) of the same domain, Operations and Algebraic Thinking (OA) domain. For example, in Unit 1, Lesson 15, students answer the following problem: “Hannah and her partner are trying to solve the problem below. The third graders are going to the movies! Each ticket costs $4. If the teachers have $20 in their budget, how many tickets can they purchase? Which representation is accurate? Explain on the lines below.” Unit 5, Lessons 1 through 8 connect the Geometry (G) and Number and Operations - Fractions (NF) domains. For example, in Unit 5, Lesson 4, students partition shapes into equal parts (LSSM 3.G.A.2), write the unit fraction inside each partition (LSSM (3.NF.A.1), and match it to the correct fraction. Unit 7, Lessons 1-5 connect clusters A, C, and D of the Operations and Algebraic Thinking domain. Students identify patterns within the factors of units of 2, 4, 5, 8, 9, and 10 (LSSM 3.OA.D.9). This work is used to help them solve multiplication and division word problems (LSSM 3.OA.A.3) and work towards fluency with these facts (LSSM 3.OA.C.7).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	**Required** **3a)** ***Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for explicitly in specific content standards or cluster headings by amply featuring high-quality conceptual problems and discussion questions.	**Yes**	Materials develop conceptual understanding of key mathematical concepts. For example, in Unit 1, Lesson 2, students interpret products of whole numbers using arrays to model their thinking (LSSM 3.OA.A.1). In the lesson, students use arrays to make sense of multiplication factors and relate them to the concepts of equal groups and number of groups. Students respond to questions such as, "How did you represent and solve?" allowing students to develop their own definitions of arrays and how they relate to multiplication equations. Students summarize their learning by responding to the following question, "How do our arrays relate to our pictures and multiplication equations?" Unit 3, Lessons 1 through 4, help develop LSSM 3.NBT.A.1. The objective of Unit 3, Lesson 1, is to "round two- and three-digit numbers to the nearest ten using vertical number lines and thinking about, 'which ten is this number closest to'." During the lesson, students draw vertical number lines to represent two tens a number is between, identify the halfway point between the two numbers, and then place the number being rounded to determine which ten the number is close to. Students apply this concept in Lesson 2 as they round to the nearest hundred. During the lesson, students round 143 and 286 to the nearest hundred and use a vertical number line to model their

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			thinking. In Lesson 3, students "round to the nearest ten or hundred by asking what two tens or what two hundreds the number is between, and which ten or hundred is it closer to." Students continue to use a number line to model their thinking. Students then use their understanding of rounding and place value to solve estimation problems in Lesson 4. In Unit 4, Lesson 3, students utilize concrete measurement models to establish units of metric capacity (LSSM 3.MD.A.2). Students measure and compare liquid volumes in a beaker and utilize this work to gain the ability to approximate liquid capacity measurements. Students use the benchmark measurements of an eye dropper and a water bottle to establish the ability to determine the capacity of other objects. In Unit 5, Lesson 21, students utilize a number line to develop their understanding of equivalent fractions (LSSM 3.NF.A.3a). Students label a number line with thirds and sixths and use this model to identify multiple pairs of equivalent fractions. This establishes students' conceptual understanding of equivalent fractions as occupying the same point on a number line. Unit 6, Lessons 1 through 6, develops LSSM 3.MD.B.4. The aim of Unit 6, Lesson 3, is to measure the length of an object to the nearest quarter-inch using a ruler and apply understandings of whole numbers

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			and fractions. The aim of Unit 6, Lesson 4, progresses to interpret the data displayed in a line plot by reading the title and labels to understand what information the graph is displaying. The aim of Unit 6, Lesson 6, wraps up with students generating measurement data by measuring objects to the nearest quarter-inch and creating line plots to display the data and ask and answer questions to interpret plots. Unit 6, Lesson 6, has the following problem of the day: "Mr. Springstein's class is measuring the length of their pencils to the nearest fourth of an inch. Below is some of the data they've already gathered. Measure the pencils below and add that data to the table. Then, create a line plot to represent the lengths of the pencils."
	Required **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students attain the fluencies and procedural skills required by the Standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.	**Yes**	Materials are designed so that students attain the fluencies and procedural skills required by the standards. Unit 1, Lessons 6 through 12, focuses on the procedural skill LSSM of 3.MD.C.6 (measure areas by counting unit squares). In Unit 1, Lesson 6, students measure and compare the areas of shapes using standard and non-standard units and by accounting for gaps and overlaps. In Unit 1, Lesson 8, students measure the area of shapes using grid paper by counting the number of square units within the boundaries of a shape and accounting for partial units. In Unit 1, Lesson 9, students measure the area of a rectangle using multiplication by relating

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the side lengths of a rectangle to the array of square units that cover a rectangle. These lessons come together in Unit 1, Lessons 11 and 12. In Unit 1, Lessons 11 and 12, students tile a shape given information about its side lengths and write a multiplication sentence that determines the shape's area. The implementation guide includes guidance for teachers to refer to the Grade 3 Fluency Workbook for additional at-bats "to ensure that students get sufficient practice to move towards skill fluency with 3.MD.C.6." The workbook contains 20 additional problems in which students find the area of shapes by counting unit squares. Students work with multiplication concepts throughout the materials and beginning in Unit 1, Lesson 1. Students develop an understanding of multiplication and apply this thinking across several units and lessons including Unit 1: Multiplication, Division, and Area, Unit 4: Measurement, and Unit 5: Fractions. In Unit 7, Lesson 1, students are expected to count by 1s, 2s, 3s, 4s, and 5s to determine the multiples of each, then they are asked to use those multiples to determine the products of multiplication facts with those multiples. Students recognize the multiple patterns as a method of solving multiplication facts within 100. Then in Unit 7, Lessons 5 to 11 bring the focus to the procedural skill and fluency expectation of LSSM 3.OA.C.7. Up

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			to this point, students have had numerous experiences working with various strategies and manipulatives to understand basic multiplication facts. In Unit 7, Lesson 5, students solve multiplication equations by applying fact patterns and skip-counting. In Unit 7, Lesson 6, students solve multiplication problems using the distributive property to break facts into parts and combine the products of these parts to find the original product. In Unit 7, Lesson 8, students apply efficient strategies to solve for the unknown in a multiplication or division problem. Guidance is provided that suggests teachers refer to the Grade 3 Fluency Workbook for additional at bats to ensure sufficient practice with LSSM 3.OA.C.7. The workbook includes several whole group activities for practicing multiplication facts, along with 25 fluency problems for practice. Unit 3, Lesson 13, addresses LSSM 3.MD.A.1. The lesson provides an analog clock with a given time. Students are first asked to provide the time to the nearest minute that is shown on the clock. Then students are asked to label the first and last tick marks 8:00 a.m. and 9:00 a.m. on a number line. Then they are asked to plot a point to show the time given on the analog clock. This skill is repeated multiple times throughout Unit 3, Lesson 13. The materials have a fluency section provided with additional practice problems for

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			students to demonstrate given times on analog clocks. Again, guidance is provided to use the Fluency Workbook for additional practice. Although the Fluency workbook is provided and mentioned in several units of the implementation guide for additional practice, the materials do not include specific guidance in Unit Overview or in the Teacher Lesson Plan on when or how to use the fluency book. The implementation guide includes guidance that devotes 60 minutes of class time to the math lesson with 10 minutes devoted to math fluency. It is unclear if the Fluency Workbook should be utilized at this time.
	Required **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content Standards where expectations for multi-step and real-world problems are explicit.	**Yes**	Materials are designed so that students spend sufficient time working with engaging applications. Grade 3 has application standards within the LSSM 3.OA and LSSM 3.MD domains. The standards involve solving word problems using varied operations and in real-world contexts. Most lessons engage students in a daily Problem of the Day (POD), some of which are single step and others which are multi-step as called for by LSSM 3.OA.D.8. This brings an application focus to the daily work. For example, in Unit 3, Lesson 6, students begin the lesson by solving an application problem involving addition and subtraction of time intervals in minutes with the following application problem, “Jessica swam for 275 more minutes than Heather last week. Heather

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			swam for 327 minutes last week. How many minutes did Jessica swim for?" (LSSM 3.MD.A.1). Additionally, in Unit 8 students develop problem solving skills in multiple contexts and with multiple steps. In Unit 8, Lesson 9, students work with a complex multi-step problem, "A box of markers weighs 105 grams. If the empty box weighs 15 grams, how much does each marker weigh?" Unit 4, Lessons 1 to 5, focuses on the application LSSM 3.MD.A.2. In Unit 4, Lesson 1, students focus on measuring and estimating the weight of objects using standard units of mass (grams and kilograms) and by accurately reading a scale or using benchmark measurements. In Unit 4, Lesson 2, students solve the following problem: "Jane and her 8 friends go apple picking. They share what they pick equally. The total weight of the apples they pick is shown to the right. About how many kilograms of apples will Jane take home? Jane estimates that a pumpkin weighs about as much as her share of the apples. About how much do 7 pumpkins weigh altogether?" In Unit 4, Lesson 4, students solve contextual problems about measurement by visualizing, representing, and solving using all four operations and estimation. Unit 7 addresses LSSM 3.MD.C.7b. In Unit 7, Lesson 15, students solve the following problem: "Madison and McKenzie's rectangular bedroom is divided into two

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			sections. If Madison's share of the room is 5 feet long and 7 feet wide and McKenzie's side of the room is 4 feet long and 7 feet wide, what is the total area of the bedroom? Write one equation to represent the area of the entire bedroom and solve." Unit 8, Lessons 6 through 12, focuses on the application of LSSM 3.OA.D.8. Students annotate and represent two-step word problems by thinking about the big problem and the smaller problems that need to be solved in Unit 8, Lesson 6. In Unit 8, Lesson 8, students solve two-step story problems by representing and solving all parts of the problem to answer the big question using letters to represent the unknown. In Unit 8, Lesson 10, students solve two-step story problems by representing and solving all parts of the problem to answer the big question. Unit 8, Lesson 10's exit ticket states: "Last month Amy spent 419 minutes practicing her math facts. So far this month, Amy has spent 60 minutes each week practicing her math facts, for 3 weeks. How many more minutes will Amy need to practice in order to match last month's total minutes?"
	Required **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately. Each lesson has varying components that allow for different types of practice and focus while the additional "Grade 3 Fluency Practice

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			Workbook" provides isolated practice with fluency and procedural skills. Unit 4 addresses LSSM 3.MD.A.2, which includes all three components of rigor. In Unit 4, Lesson 1, students measure and estimate the weight of objects using standard units of mass and accurately read a scale. Unit 4, Lesson 7, question 1 of the Independent Practice, students read the scale of a beaker, combine two amounts of two different beakers, and then subtract the amount that was taken from one beaker to solve for the amount that is left. Question 1 states: "Dr. Watkins combined the two amounts of liquid shown below at her chemistry lab into one beaker. She then poured 50 mL into a test tube. How much liquid does she have left in the beaker?" Unit 6, Lesson 7, addresses LSSM 3.MD.D.8 as students develop the procedural skill of measuring perimeters of polygons by using string around a polygon and then measuring the length. The Workshop instructions state: "Use your string to trace the perimeter of the shape, then measure the string to find the length of the perimeter to the nearest inch. Circle the shape with the largest perimeter." Later, in Unit 6, Lesson 10, the student expectation is at the application level. The problem of the day states: "The perimeter of the shape below is 35 inches. What is the length of the missing side?" Unit 6, Lesson 10, addresses multiple levels of rigor while

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			Unit 6, Lesson 7, addresses the procedural level of measurement. In Unit 7, Lesson 1, the materials reflect the balance of rigor in the standards and address LSSM 3.OA.D.9, 3.OA.D.9, and 3.OA.A.3. The lesson begins with the Problem of the Day which displays a hundreds chart. Students shade in all of the multiples of 2, circle all of the multiples of 5, and put an X through all of the multiples of ten. Then they discuss the patterns that they noticed and strategies that can be used to solve the facts for 2, 5, and 10 (conceptual understanding, LSSM 3.OA.D.9). During Independent Practice of the same lesson, students complete a facts table for 2s, 5s, and 10s (procedural skill and fluency, LSSM 3.OA.C.7) and then answer the question, "What patterns do you notice in the products of multiplying by 2 facts? How are the products related to the factors," and then answer a similar question for 5 facts and 10 facts (conceptual understanding, LSSM 3.OA.D.9). Students then apply the concepts and skills in word problems and the exit ticket which states: "Gretta says there would be 17 hands on 9 people. Use what you know about the patterns for multiples of 2 to explain why you agree or disagree with Gretta." (application, LSSM 3.OA.A.3). In Unit 9, Lessons 1 to 4, the materials address both conceptual understanding and procedural skill and

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			fluency as expected of LSSM 3.G.A.1. Unit 9, Lesson 1, begins with the following problem of the day: "Steve the Zookeeper needs our help! The giraffe habitat is the polygon you see below. How would you describe this polygon?" (conceptual understanding). Unit 9, Lesson 3, progresses to the following problem of the day: "Draw a quadrilateral that has only one pair of parallel lines. How are the quadrilaterals alike? How are the quadrilaterals different?" (procedural skill and application). Unit 9, Lesson 4 finishes up with the following: "Circle all the quadrilaterals that have 2 pairs of sides that are the same length, but are not rectangles. Why are these shapes not rectangles?" (conceptual understanding and procedural skill).
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. ☒ Yes ☐ No	**Required** **4a)** Materials address the practice standards in such a way as to enrich the content standards of the grade/course; practices strengthen the focus on the content standards instead of detracting from them, in both teacher and student materials.	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade. For example, in Unit 1, Lesson 2, students utilize MP.4 (Model with mathematics) as they represent equal groups using arrays and equations to multiply (LSSM 3.OA.A.1). Students also construct arrays to demonstrate the relationship between multiplication and area. For example, students solve the following problem: "Lizzie plays with toy cars for fun. She organized them on her floor. She put them in 3 rows of 6 cars. How many cars does Lizzie have in all? Use two strategies to represent this problem, one must be

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			an array and the other is your choice." Unit 2, Lesson 3, focuses on creating scaled bar graphs by drawing bars to represent values based on a given scale and labeling all components (LSSM 3.MD.B.3). During the Workshop in this lesson, students collect data on a survey of their choice, and then take the information and represent it on a scaled bar graph. This directly relates to MP.4 (Model with mathematics), MP.5 (Use appropriate tools strategically), and MP.6 (Attend to precision). Unit 5, Lesson 6, focuses on identifying and representing non-unit fractions using pictures, words, and numbers (LSSM 3.NF.A.1). The lesson's exit ticket includes the following problem: "Justin mows part of his lawn. Then his lawnmower runs out of gas. He has not mowed 7 eighths of the lawn. What part of his lawn is mowed? What part is un-mowed? Draw a labeled model and explain your thinking." This connects directly to MP.4 (Model with mathematics) and MP.6 (Attend to precision). In Unit 7, Lesson 4, students identify patterns as they multiply with 9 as a factor. Students look for structures and patterns (MP.7) in the 9 times table, and they are encouraged to notice patterns such as the digits in multiple of 9 adding up to nine (LSSM 3.OA.D.9). The independent practice of Unit 8, Lesson, 4, contains the following question: Corinne says that the product of 6 x 26 is 133. Can

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			she be correct? Explain why or why not on the lines below. This question addresses MP.3 (Construct viable arguments and critique the reasoning of others). Students are expected to compare their solution to this problem with that of a peer which requires them to critique the reasoning of others and write a viable argument in support of or contrary to the work of another. Unit 9, Lesson 2, students identify and sort quadrilaterals and then justify their reasoning for their different groupings and descriptions (LSSM 3.G.A.1). Students utilize MP.3 (Construct viable arguments and critique the reasoning of others) as they strive to answer the overarching question, "How can mathematicians classify quadrilaterals?"
Section II: Additional Criteria of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No	**Required** **5a)** Materials provide all students extensive work with course-level problems. Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**Yes**	Materials provide all students extensive work with grade-level problems. There are 9 units with a total of 141 lessons. All lessons focus on grade-level work. Minimal references are made to prior learning, but work that students are expected to produce is aligned with grade level expectations. Exercise Based Lessons begin with an Introduction that helps focus student thinking on the learning goal for the day. Then students engage in the Workshop to help develop a deeper understanding of the targeted standard(s). Finally students engage in Independent Practice in which they

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			independently solve grade-level problems that help students internalize the day's learning. For example, Unit 2, Lesson 1, addresses LSSM 3.MD.B.3. Although the introduction to the lesson begins with pictographs with single unit scales (LSSM 2.MD.D.10), the work students are expected to produce as assessment evidence involves creating a pictograph with a scale of 4 that includes a key (LSSM 3.MD.B.3). In Unit 3, Lesson 5, students work with addition using expanded notation, a strategy that is based on place value as called for in LSSM 3.NBT.A.2. According to the lesson narrative, "If scholars have a myriad of misconceptions, begin the lesson by tying the strategy back to the pictorial (place value blocks) (LSSM 2.NBT.B.7)." This directive ties second grade learning in to make sense of third grade learning, but ensures the students are producing work in line with third grade expectations. In Unit 3, Lesson 15, students use a number line to solve for elapsed time (LSSM 3.MD.A.1). The aim for Unit 3, Lesson 15, states "solve problems about elapsed time by counting up or back on a number line in hour and minute intervals." The Problem of the Day for Unit 3, Lesson 15, reads "Beyonce has a dinner party that begins at 5:15 p.m. If it ends at 10:45, how long was the dinner party?" Students complete six grade-level problems involving elapsed time during the Workshop and then complete an

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			additional nine grade-level problems during Independent Practice. Students also have the opportunity for additional practice in the Grade 3 Fluency Workbook. The aim for Unit 6, Lesson 8, is to "determine the perimeter of a shape by adding the lengths of all sides of the shape (3.MD.D.8)." The exit ticket has the following problem included: "Alan's rectangular swimming pool is 10 meters long and 16 meters wide. What is the perimeter?" Extensive grade-level work is evidenced in Unit 5 where the Grade 3 LSSM within the Number and Operations with Fractions domain are addressed. LSSM 3.NF.A.1 is addressed across 8 lessons designed to develop conceptual understanding of fraction parts being equal. LSSM 3.NF.A.2 is addressed across 7 lessons designed to develop conceptual understanding of fractions on a number line. LSSM 3.NF.A.3a-d is addressed across 12 lessons designed to develop conceptual understanding of equivalent fractions and comparing fractions. Additionally in Unit 7, there is extensive work provided for LSSM 3.OA.D.9 which is addressed across 11 lessons at the conceptual level where students recognize patterns on the multiplication table. In Unit 8, 5 additional lessons also address LSSM 3.OA.D.9.
	Required **5b)** Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. The	**Yes**	Materials relate grade-level concepts explicitly to prior knowledge from earlier grades and are designed so that prior

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	materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.		knowledge is extended to accommodate new knowledge. Lessons are appropriately structured and scaffolded to support student mastery. Within Scope and Sequence documents and Unit Overviews there are clear links to previously grade-level content made for teachers. Similarly, lessons make connections between grade level content and prior knowledge in the lesson plan for teachers and in the discussion sequences for students. For example, in Unit 1, Unit Overview, LSSM 2.OA.C.4 is identified as a previous grade-level standard taught. In Lesson 1, Grade 2 learning is referenced in the narrative, "Students have dabbled in multiplication in previous grades with strategies like skip counting or repeated addition" and is connected to the lesson's goal of understanding the concept of groups, amount in each group, and total as it relates to multiplication. In Unit 5, LSSM 2.G.A.3, partitioning shapes into basic fractions, is identified as supporting previous grade-level work related to LSSM 3.NF.A.1. The lesson introduction makes a direct connection to student work in second grade, "In second grade you all spent time learning about how we can partition, or cut shapes into equal parts." Students are then given opportunities to partition shapes into equal parts, reasoning about the equality of the pieces.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	5c) Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.	**Yes**	Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards. The materials use the word "Aim" instead of objective in their lessons. The Aims reflect the language and intent of the LSSM cluster headings and standards. For example, Unit 2, Lesson 7, addresses LSSM 3.MD.B.3 (draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one and two step "how many more" and "how many less" problems using information presented in scaled graphs.) The aim for Unit 2, Lesson 7, is "display data using a picture graph and bar graph and generate 1 and 2 step questions about the data considering different problem types and using the data in their graph." An example of a question from the lesson is "Soccer balls are on sale at Mr. Hawk's sport store from April to July. Mr. Hawk sells six dozen soccer balls in April. Mr. Hawk sells nine and one-half dozen soccer balls in July. (1 dozen=12) Make a pictograph that shows this information. Make a bar graph that shows this information. What are three questions Mr. Hawk could ask about the information in this pictograph? Write 3 questions based on the pictograph." The Aim for Unit 2, Lesson 5, is "collect and display data by conducting a survey and creating a scaled picture graph and bar graph to show the results." This ties

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			directly to the language of LSSM 3.MD.B.3 which includes "draw a scaled picture graph and a scaled bar graph to represent a data set with several categories." In Unit 4, Lesson 3, the aim is, "measure and estimate liquid volumes using standard units of volume and a vertical number line." This language reflects LSSM 3.MD.A.2, which states, "measure and estimate liquid volumes and masses of objects using standard units...by using drawings to represent the problem."
6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE: Aligned materials make meaningful and purposeful connections that enhance the focus and coherence of the Standards rather than detract from the focus and include additional content/skills to teach which are not included in the Standards. ☒ Yes ☐ No	**Required** **6a)** Materials attend to the full meaning of each practice standard. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standard. Alignments to practice standards are accurate.	**Yes**	Materials attend to the full meaning of each practice standard. Each provided Unit Overview identifies how applicable math practice standards will apply to that unit. Standards of focus are highlighted while specific applications of each practice standard are described in detail. Each individual lesson also lists related math practice standards. For example, in Unit 6, students work with the concepts of length and perimeter. This unit applies MP.5 (Use appropriate tools strategically) and MP.6 (Attend to precision) in contexts that involve the intent of the practice standard. In Unit 6, Lesson 2, students measure with a broken ruler to understand that a ruler's endpoint does not determine the length of an object but instead the number of units equivalent to the length of the object (LSSM 3.MD.B.4). This represents a strategic use of a ruler (MP.5). In Unit 6, Lesson 3 students attend to precision (MP.6) by measuring

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			whole and quarter inch lengths of objects- assuring they line up the ruler correctly (LSSM 3.MD.B.4). In Unit 5, Lesson 4 students build an understanding of unit fractions (LSSM 3.NF.A.1). They utilize MP.4 (Model with mathematics) as they engage in modeling unit fractions with pictures, fraction notation, and explanations with words. This modeling allows them to develop a conceptual understanding of fractions. Students utilize MP.7 (Look for and make use of structure) in Unit 1. The Unit overview states: "Students will learn to identify the unending relationship between multiplication and division; this is particularly the case when students are learning to determine the unknown whole number in multiplication and division situations." In Unit 1, Lesson 17 students interpret unknowns using arrays (LSSM 3.OA.A.4) . This is done with multiplication and division. The lessons prior to Unit 1 Lesson 17 solidify student understanding of the multiplication and division relationship which enables them to make use of the structures they have learned for the inverse operations of multiplication and division.
	Required **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving	**Yes**	Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards. Most lessons provide

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	as a form of argument, attending thoroughly to places in the Standards that explicitly set expectations for multi-step problems.		the students opportunities to engage in viable arguments and critiques of others. Within each lesson, students are asked to develop and defend multiple strategies they could use to attend to the task. This is abundantly present in materials because of the lesson design as an exercise based approach, but also done strategically to address places in the standards where students are expected to be able to do so. Unit 1, Lesson 10, addresses LSSM 3.MD.C.5, 3.MD.C.6, and 3.MD.C.7. These standards contain the progression of solving for areas for Grade 3. Students have the opportunity to utilize MP.3 (Construct viable arguments and critique the reasoning of others) in three of the items during the Independent Practice portion of the lesson. Students are expected to critique the reasoning of others with a mathematical argument. For example, one of the problems states: “Coraline says that if a shape doesn’t have tiles drawn inside it, you can use your ruler to make an array of squares inside that match the side lengths to help you find the area. Marie says that only works if the shape is a square. Who is correct? Explain on the lines below.” Students have three different opportunities to utilize MP.3 in Unit 5, Lesson 9. For example, the problem of the day states: “Alicia and Justin were trying to compare the fractional amount of pizza they ate using

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			what they learned in math. Below are both pizzas. Alicia says she ate more because she ate ½ of her pizza and that is a larger amount than Justin who ate ¼. Justin disagrees; he says you can't compare the two pizzas that way. Who is correct?" Many lessons incorporate the activity called "Error Analysis." For example, Unit 8, Lesson 10, focuses on two-step problem solving and incorporates a genuine error analysis of student work. In a problem in the Independent Practice, students analyze a fictional student's representation of a word problem. Other lessons incorporate opportunities for students to discuss misconceptions.
	6c) There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.	**No**	Materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Aligned practice standards are listed and described in the Unit Overview and include the way in which students authentically develop the math practices across the whole unit. The practices specific to a lesson are listed at the start of the lesson. However, the materials do not state a purpose and intent for the practice standards within each lesson. The only guidance on how the students should utilize the practice standards is provided in the Unit Overview. Without specific guidance in the lessons, the materials do not support teachers in

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			helping students develop the math practices overtime. Guidance is not provided in such a way to help teachers identify other opportunities to develop the practices in other areas.
	6d) Materials explicitly attend to the specialized language of mathematics.	**Yes**	Materials explicitly attend to the specialized language of mathematics. Within each lesson there is a Vocabulary section where the vocabulary for that lesson is defined. For example, the Unit 3 Overview provides a list of mathematical vocabulary terms that students will need to understand and use correctly and consistently. The list includes: place value, digit, estimate, rounding, equation, addends, sum, difference, algorithm, number line, time, hour, half hour, quarter hour, minute, a.m., p.m., elapsed time, analog clock. This mathematical language is used throughout the unit objectives and instruction. For example, Unit 3, Lesson 4, the objective states: "Solve problems involving estimation using their understanding of rounding and place value." The Unit 7 Overview provides a list of mathematical vocabulary students will need to understand and use correctly and consistently. The list includes: digits, array, distributive property, factor, multiplication, product, division, dividend, divisor, quotient, area, and square units. This mathematical language is used throughout the unit in objectives and instruction. For example, Unit 7, Lesson

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			15, objective states: "Model the distributive property by separating the area of rectangles into two parts." Additionally, each lesson contains information about specific mathematics vocabulary utilized in the lesson. Definitions are also provided as necessary. In Unit 2, Lesson 3, students create scaled bar graphs by drawing bars to represent values based on a given scale and labeling all components. Students are expected to attend to the specialized language across the unit. For example, the teacher asks, "If the y-axis runs vertically, then the x-axis must run?" Students are expected to answer "horizontally." Additional sample student responses include "We can make vertical bars that go up to that go up on the number scale that matches the amount for that category" and "the bar graph with 5 as the scale has less numbers along the y-axis so it looks neater and more organized."
7. INDICATORS OF QUALITY: Quality materials should exhibit the indicators outlined here in order to give teachers and students the tools they need to meet the expectations of the Standards. ☒ Yes ☐ No	**Required** **7a)** There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Students are expected to produce oral answers, solutions, models, written explanations, and oral or written critiques. Some responses also require tables, charts, and/or data. In Unit 1, Lesson 18, Division as Unknown Factory Arrays/Tape Diagrams, students produce oral explanations of solutions, draw tape diagram models, develop equations,

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			respond to multiple choice questions, and provide written justifications to demonstrate understanding of division as an unknown factor problem (LSSM 3.OA.B.6). In the Unit 2, Lesson 7, Problem of the Day, students create a pictograph, a bar graph, and create questions that can be answered by using those graphs (LSSM 3.MD.B.3). Unit 4, Lesson 7, Independent Practice contains the following question: "Jennifer's grandmother buys carrots at the farm stand. She and her 3 grandchildren equally share the carrots. The total weight of the carrots she buys is shown below. How many kilograms of carrots will Jennifer get? Jennifer uses 2 kilograms of carrots to bake muffins. How many kilograms of carrots does she have left?"(LSSM 3.MD.A.2). In Unit 7, Lesson 16, Area and the Distributive Property, students complete an error analysis of another student's calculations of area, draw area models, utilize equations, discuss and critique strategies, and utilize written explanations to make connections between the distributive property and the calculation of area (LSSM 3.MD.C.7). Unit assessments incorporated in the curriculum also provide opportunities for students to produce a variety of work. For example, the Unit 3 test which assesses student mastery of estimation, addition, subtraction, and time, incorporates varied problem types including multiple choice,

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			reasoning questions, and modeling and application questions to demonstrate mastery of concepts taught. Models incorporated on the assessment include analog clocks, number line diagrams, vertical number lines, and algorithms.
	Required **7b)** There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of student responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Yes**	Materials provide separate teacher materials that support and reward teacher study. The materials contain a "Guide to Implementing AF Math: Grade 3." This guide provides information about the lesson structures, unit lessons, daily aims (objectives), and aligned standards. Each unit also includes its own Unit Overview with more detailed information for the teacher. This document provides standards, previous grade level standards, enduring understandings, a narrative version of the learning, models and visuals of learning, math practice standard connections. The narrative describes the ways in which students will develop their understanding of the content over the course of the unit, and is followed by key strategies. Additionally, it provides significant information about previous learning and learning challenges including pre-requisite skills, potential misconceptions (with clarifications), and a detailed lesson sequence. Each Unit Overview also includes relevant teacher background cited directly from other sources, such as the Common Core Standards Progression Document. For example, the Unit 7 Overview identifies

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the standards that are addressed in the lesson and include LSSM 3.OA.D.9, 3.OA.A.3, 3.OA.C.7, 3.OA.B.5, and 3.MD.C.7. Guidance on what it looks like in the unit is included, such as "Students will determine the unknown whole number in a multiplication or division equation by relating the three whole numbers." The Narrative details the progression of learning within the unit and provides examples and pictures of key strategies used during the unit, such as using the distributive property of multiplication to solve for larger facts and to solve for the area of a rectilinear or composite shape. A learning progression graphic is provided, followed by examples of Standards for Mathematical Practices utilized in the lesson. For example, students utilize MP.4 (Model with Mathematics) as they "model the distributive property using arrays and tiled rectangles." Additionally, prerequisite skills, such as "Multiplying with a factor of 4 or 8 can be made easier by splitting the factor of 4 or 8 into equal groups and doubling" are provided.
	7c) Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	**No**	Materials do not include support for English Learners and other special populations. In the Unit Overviews and lessons, there is no evidence of support for English Learners. For example, in Unit 2, Lesson 1, vocabulary for the lesson is given in English and possible misconceptions are given, but supports

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			are not offered for English Learners. In Unit 4, Lesson 5, suggestions for intervention and extension are given; however there is no evidence of support for English Learners.
	7d) The underlying design of the materials distinguishes between problems and exercises. In essence, the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	**Yes**	The underlying design of the materials distinguishes between problems and exercises. As explained in the "Guide to Implementing Achievement First: G3" the curriculum incorporates two different lesson structures: Exercise Based Lesson and Task Based Lesson. Each Exercise Based lesson is designed so that students dive into a problem together, developing an understanding of a new concept and strategies they might apply to solve such problems. From there, students are released to Workshop and Independent Practice for them to engage in multiple opportunities to apply their understanding and build mastery and fluency where applicable. The materials also provide fluency practice, when applicable, and an exit ticket. For example, in Unit 7, Lesson 8, students utilize the Workshop to represent story problems with a partner using the modeled story problems protocol. Following a discussion, students then independently solve word problems utilizing the processes they learned and practiced during the Workshop. In a Task Based Lesson, students participate in an exploration and discussion that involve problem solving tasks aligned to recently

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			learned content. They then apply their acquired knowledge in the extension component of the lesson. For example, in Unit 3, Lesson 18 and 19, students work with partners to solve exemplar problems that connect recently learned elapsed time content to application questions. The teacher utilizes student examples to discuss the learning and strategies employed. Following the discussion, students engage in independent work to demonstrate their learning of concepts related to word problems with elapsed time.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Yes**	Lessons are appropriately structured and scaffolded to support student mastery. The materials use the "I do, We do, and You do" structure. Each lesson begins with a posed question. The teacher guides the students through this problem. The lesson progresses into the Workshop. During the Workshop portion of the lesson, students work together to persist through problems, the lesson continues with independent practice, and finishes with an exit ticket. Students work together to develop a range of working strategies for the new mathematical concepts, then are released to the Workshop for independent or partner application, followed by a discussion to extend or remediate based on data collected by the teacher. For example, the Unit 1 Overview states the Target Curricular Aim or objective as: "Students

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			utilize arrays to understand, represent, and interpret multiplication, division, and area situations in context. Students interpret and solve for unknowns in each situation using the relationship between multiplication and division and the properties of multiplication." Unit 1 begins with concrete methods of representing multiplication using arrays in situations where there are equal groups. By the end of the unit students are solving for unknowns using the multiplication/division relationship over the course of 24 lessons. Each lesson incorporates sections titled, "Intervention" and "Extension." In the Unit 2, Lesson 5, Workshop component, students develop a poster of their data and create questions aligned to collected data. The lesson intervention suggests providing learners with a bank of questions from which to choose, while the lesson extension suggests asking scholars to write two-step questions. Intervention and extension ideas are also provided for the independent practice of this lesson. These interventions and extensions are consistently provided in curriculum lessons.
	7f) Materials support the uses of technology as called for in the Standards.	**N/A**	The LSSM does not call for use of the technology in Grade 3.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
FINAL EVALUATION ***Tier 1 ratings*** receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality. ***Tier 2 ratings*** receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality. ***Tier 3 ratings*** receive a "No" for at least one of the Non-negotiable Criteria.			
Compile the results for Sections I and II to make a final decision for the material under review.			
Section	**Criteria**	**Yes/No**	**Final Justification/Comments**
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	Materials devote a larger majority of time to the major work of the grade. Materials spend minimal time on content outside of the appropriate grade.
	2. Consistent, Coherent Content	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	Materials develop conceptual understanding of key mathematical concepts. Materials are designed so that students attain the fluencies and procedural skills required by the standards. Materials are designed so that students spend sufficient time working with engaging applications. It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately.

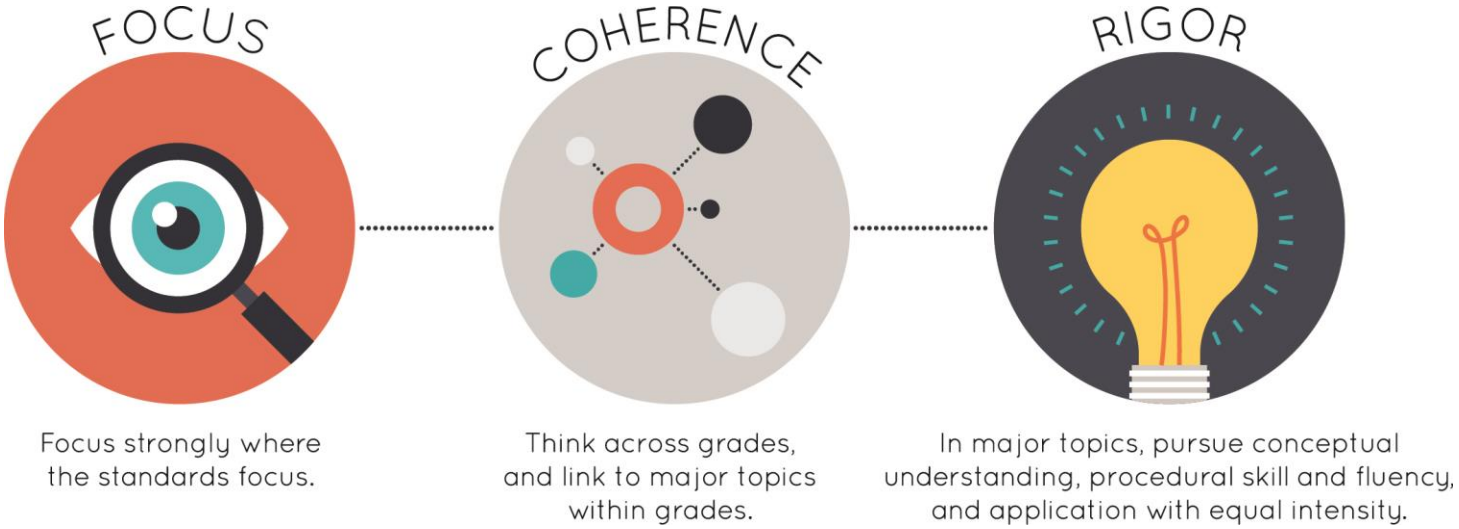
[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	4. Focus and Coherence via Practice Standards	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade.
II: Additional Criteria of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	Materials provide all students extensive work with grade-level problems. Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.
	6. Alignment Criteria for Standards for Mathematical Practice	**Yes**	Materials attend to the full meaning of each practice standard. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.
	7. Indicators of Quality	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Materials provide separate teacher materials that support and reward teacher study. The underlying design of the materials distinguishes between problems and exercises. Lessons are appropriately structured and scaffolded to support student mastery. However,

[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			materials do not include support for English Learners and other special populations. The LSSM do not call for use of the technology in Grade 3.
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Strong mathematics instruction contains the following elements:



Title: **Achievement First Math**

Grade/Course: **4**

Publisher: **Achievement First**

Copyright: **2019**

Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Alignment Criteria for Standards for Mathematical Practice	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality **Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.**			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials should devote the large majority of class time to the major work of each grade/course. Each grade/course must meet the criterion; do not average across two or more grades.	**Yes**	Materials devote a large majority of time to the major work of the grade. Of the lessons presented over 10 units, 77% of the lessons are devoted to major work of the grade. Specifically, 70% are devoted to major standards, 7% are devoted to a combination of major and additional/supporting standards, and 23% are devoted to additional and supporting standards. Unit 2 consists of 16 lessons. All of the lessons reflect major work standards with the exception of Lesson 1. Lesson 1 does not represent a fourth grade standard however, the lesson is labeled as "optional for remediation" in the implementation guide. Major work standards addressed in Unit 2 include LSSM 4.NBT.A.1, LSSM 4.NBT.A.2, and LSSM 4.NBT.A.3. In Unit 5, all of the lessons are devoted to major work of the grade addressing LSSM 4.OA.A.3. Unit 7 contains 11 lessons that focus on major work of the grade including: LSSM 4.NF.C.5, LSSM 4.NF.C.6, and 4.NF.C.7.
	Required **1b)** In any one grade/course, instructional materials should spend minimal time on content outside of the appropriate grade/course. Previous grade/course	**Yes**	Materials spend minimal time on content outside of the appropriate grade-level. In assessment materials, assessment components do not make

[2] For more on the major work of the grade, see Focus by Grade Level.
[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	content should be used only for scaffolding instruction. In assessment materials, there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.		students/teachers responsible for any topics before the grade level in which they are introduced. Lessons are aligned to the Grade 4 LSSM and the assessments are grade-level appropriate. The forms of assessments include Exit Tickets and End of Unit Assessments. The materials include a Fluency and Practice Workbook that allows teachers the opportunity to view student understanding based on the work in the book. The Fluency Workbook includes the fluency standards of the grade level. The materials also include a guide to implementing the materials. The Implementation Guide has a breakdown of the lessons for each unit and daily schedules that include estimated time to spend on grade level fluency and the lesson. The guide provides indicators for each lesson and includes remediation lessons, enrichment lessons, and on-grade-level lessons. The majority of the lessons are on grade-level and assessments focus on grade-level standards. Remediation lessons are clearly labeled as optional and include a rationale for using the lesson. For example, Unit 3, Lesson 1 aligns with LSSM 3.NBT.A.2; however, the implementation guide states that “This lesson focuses on the review on 3.NBT.A.2, and therefore teachers may opt to skip it or use it for remedial purposes.” Unit 1 addresses and assesses LSSM 4.OA.A.1, 4.OA.A.2, 4.OA.B.4, and

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			4.OA.C.5. Unit 2 addresses and assesses LSSM 4.NBT.A.1, 4.NBT.A.2, and 4.NBT.A.3. Unit 10 addresses and assesses LSSM 4.MD.C.5-7. Additionally, the Unit 6 assessment includes assessment items that address LSSM 4.NF.A.1, 4.NF.A.2, 4.NF.B.3, 4.NF.B.4, and 4.MD.B.4.
Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and consistent with the content in the Standards. ☒ Yes ☐ No	**Required** **2a)** Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	Materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. For example, in Unit 4, Lessons 25 and 26, students convert units of measurement and create conversion tables (supporting, LSSM 4.MD.A.1) using their understanding of multiplication as a comparison connecting back to major LSSM 4.OA.A.1, which was previously developed in Unit 1, Lessons 5-11. In Lesson 25, students create bar models to represent the number of cups in a quart and create conversion tables to represent the number of centimeters in a meter. Students use language such as "we multiplied 3 x 4 because there are 4 cups per quart." In Unit 4, Lesson 3, students find the unknown side length of a rectangle with a given area and additional side length using the formula for area of rectangles connecting supporting LSSM 4.MD.A.3 to major LSSM 4.NBT.B.6. In Unit 6, students develop an understanding of fractions including finding equivalent fractions, comparing fractions, and adding fractions with like denominators as expected of LSSM

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			4.NF.A.1, 4.NF.A.2, 4.NF.B.3, an 4.NF.B.3. Students extend and apply this knowledge as they engage in Lesson 24. In the lesson, students create line plots of fractions with like and unlike denominators and answer questions based on the line plots. The activities in the lesson connect supporting LSSM 4.MD.B.4 to major standards of the Number and Operations - Fractions (NF) domain. In Unit 8, Lessons 6 and 7, students determine start times, end times, or elapsed time, when two of these three are given addressing supporting LSSM 4.MD.A.2. Students then solve the multi-step word problem, "Juan left for his grandmother's house at 5:30 a.m. He drove for 1 hour and 40 minutes until he stopped for gas. Then he drove 55 more minutes. What time did he arrive at his grandmother's house?" connecting to major LSMM 4.OA.A.3.
	Required **2b)** Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade/course, in cases where these connections are natural and important.	**Yes**	Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade level where these connections are natural and important. Unit 4, Lessons 1 through 6 connect clusters A (Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit) and D (Relate area to operations of multiplication and addition) of the same domain, Measurement and Data (MD). For example, in Unit 4, Lesson 2, students

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			solve the following problem: "Jenny draws a rectangle that is 3 ft, 6 in on one side and 10 in on the other. What is the area of the square she drew, in inches?" Unit 4, Lesson 9 connects the Number and Operations in Base Ten (NBT) and Measurement and Data (MD) domains. Students solve multiplication problems by using place value blocks and pictures of place value blocks to build arrays and then add up the partial products (LSSM 4.NBT.5). Students then use multiplication to find the area of a rectangle (LSSM 4.MD.A.3). Unit 6 connects the Measurement and Data (MD) and Number and Operations - Fractions) domains. For example, in Unit 6, Lesson 25, students are given fractional data that they must use to create a line plot. Students answer questions pertaining to the line plot they created.
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	**Required** **3a)** ***Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for explicitly in specific content standards or cluster headings by amply featuring high-quality conceptual problems and discussion questions.	**Yes**	Materials develop conceptual understanding of key mathematical concepts. For example, in Unit 1, Lesson 5, students begin to develop conceptual understanding of multiplicative comparison, as required by LSSM 4.OA.A.1. In the lesson, students represent multiplicative comparison situations with bar models and equations with a variable. In the posing problem, students are given the following scenario, "Omar is collecting stamps. He has 9 George Washington Stamps. His sister has 27 Malcolm X stamps." In the first

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			question, “How many more stamps does Omar’s sister have than him?” students are expected to draw models to build on prior knowledge. The next question, “How many times greater is Omar’s sister’s stamp collection than his,” requires students to draw a new model using their prior knowledge to conceptualize new thinking. In addition, they engage in discussion around questions such as, "If a problem says 'times greater' then you always multiply. Do you agree?" In Unit 1, Lesson 7, Independent Practice, students answer the following problem: “At the Charity dog walk there are 6 times as many small dogs as large dogs. If there are 8 large dogs, how many small dogs are on the walk?” In Unit 1, Lesson 8, students continue to build conceptual understanding by matching multiplicative comparison statements with equations, and they engage in discussion around questions that require understanding, such as, "How do you know this statement matches the equation?" Students have the opportunity to demonstrate conceptual understanding through the use of tape diagrams. In Unit 2, Lesson 5, students begin to develop conceptual understanding of using non-standard partitioning to regroup numbers (LSSM 4.NBT.A.1). In the posing problem, students are given the following scenario, “Julius is making the number 1,324 with

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			his place value blocks so he can solve an addition problem, but he only has 2 hundreds. How can he make this number using the blocks he has?" The place value blocks are used as a conceptual strategy in which students apply concepts of place value and division. In Unit 2, Lesson 7, students build conceptual understanding of comparing multi-digit numbers, as called for by LSSM 4.NBT.A.2. In the lesson, students use place value charts to compare multi-digit numbers. They engage in discussion around questions, such as, "Why did you start with the hundred thousands place to compare?" and "Why should we start with the largest place value?" In Unit 4, Lesson 5, students begin to develop conceptual understanding of multi-digit multiplication, as called for by LSSM 4.NBT.B.5. In the lesson, students use place value blocks to represent multiplication equations up to 4 digits by 1 digit, using partial products to solve. In addition, students answer questions that require them to explain their thinking, such as, "Why is this a correct model of the equation?" and "How does breaking numbers apart make it easier to multiply?" Clusters 4.NF.A, 4.NF.B, and 4.NF.C focus on understanding fractions as numbers and fraction equivalence. In Unit 6, Lesson 3, students use visual models of factions to understand that when partitioning a fraction into smaller

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			parts, it is like multiplying the numerator and denominator by that number of parts (LSSM 4.NF.A.1). The focus is on visual models, but students notice patterns as they partition fractions into smaller parts that help them understand the identity property. In Unit 6, Lesson 7, students use reasoning based on number lines using ½ as a benchmark to compare fractions with unlike numerators and denominators (LSSM 4.NF.A.2); if one fraction is less than a half and the other is more than a half, or equal to one half, that logic can be used to compare fractions.
	Required **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students attain the fluencies and procedural skills required by the Standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.	**Yes**	Materials are designed so that students attain the fluencies and procedural skills required by the standards. Students spend much of the year building fluency with addition and subtraction within 1,000,000 (LSSM 4.NBT.B.4). For example, Unit 2, Place Value, lays the foundation for students' understanding of multi-digit whole numbers extending their understanding of place value to 1,000,000. In Unit 3, Addition & Subtraction, students spend time operating with these larger numbers using previously learned strategies and then connect those strategies to the standard algorithm for the first time. Lessons 2 and 3 focus on using the standard algorithm for addition, and Lessons 5-7 focus on using the standard algorithm for subtraction. Lessons 8 and 9 include mixed addition and subtraction

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			problems for additional fluency practice. The implementation guide includes guidance that suggests the teacher should refer to the Grade 4 Fluency Workbook for additional at-bats "to ensure that students get sufficient practice to move towards fluency with 4.NBT.A.4." The workbook includes several whole group activities for practicing adding and subtracting multi-digit whole numbers, along with 18 fluency problems for practice. Another procedural skill and fluency standard is LSSM 4.G.A.1. In Unit 9, Lesson 1, students identify, draw, and name lines and points by using the definitions of each line type and using points to name the figures. An example can be found in the Workshop portion of the lesson. Students are asked to complete the following: "Use the following directions to draw a figure in the box to the right. Draw two points: W and X. Use a straightedge to draw WX. Draw a new point that is not on $\overleftrightarrow{WX}$. Label it Y. Draw WY. Draw a new point that is not on $\overleftrightarrow{WY}$ or on the line containing $\overleftrightarrow{WX}$. Label it Z. Construct W." Additional practice is provided in the Fluency Workbook that includes 25 practice problems. Unit 6, Lesson 4, addresses LSSM 4.NF.A.1. In this lesson, during the Workshop section, students have the opportunity to practice creating equivalent fractions by selecting fractions that are equivalent for given fractions

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			(Which fractions are equivalent to ⅔?). Additional practice is provided in the Fluency Workbook that includes 26 practice problems. Unit 4, Lesson 25, addresses LSSM 4.MD.A.1. Students have an opportunity for repeated practice during the Workshop component of the lesson by creating tables to find the missing values for a variety of unit conversions which include finding meters when given kilometers. Students also tell the rule for converting from one unit to the other after completing the table. Additional practice is provided in the Fluency Workbook that includes 25 conversion practice problems. Although the Fluency workbook is provided and mentioned in several units of the implementation guide for additional practice, the materials do not include specific guidance in Unit Overview or in the Teacher Lesson Plan on when or how to use the fluency book. The implementation guide includes guidance that devotes 60 minutes of class time to the math lesson with 10 minutes devoted to math fluency. It is unclear if the Fluency Workbook should be utilized at this time.
	Required **3c)** ***Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop	**Yes**	Materials are designed so that students spend sufficient time working with engaging applications. LSSM 4.OA.A.3 is to be taught at the application level of rigor. This standard is addressed in Unit 5. In Unit 5, Lesson 9, students solve multi-

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content Standards where expectations for multi-step and real-world problems are explicit.		step problems with all four operations by visualizing, representing, estimating, and then solving. An example of an engaging application is "To solve this problem, we should multiply 27 by 2 to get the total ounces of oats for the horse, then multiply that total by 9 to get the amount Peter will need for 9 days. Is Caleb's plan reasonable? Tell why or why not on the lines below." LSSM 4.MD.A.2 is to be taught at the application level of rigor. In Unit 8, Lesson 3, students solve multi-step word problems with all four operations and metric and customary units of measurement by visualizing, representing, and using a variety of solution strategies. Independent practice includes the following problem: "Enya walked 2 km 309 m from school to the store. Then, she walked twice that amount from the store back home. How far did she walk in total?" Each lesson begins with a posing problem that connects the skill to real life. Students have an opportunity to work with word problems during the "introduction" and "independent practice" elements of the lesson. Unit 6, Lesson 25, addresses LSSM 4.NF.B.4.C, and students solve multi-step word problems that require justification of their answers. For example, in the independent element of the lesson students are asked, "Jamie says that if you combined the totals from all the players who ran less than 2 miles each,

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			that total would be greater than if you combined all the distances over 2 miles. Is Jamie correct? Tell why or why not on the lines below." Unit 1, Lesson 5, addresses LSSM 4.OA.A.2. Students have the opportunity to engage in applications with real world problems. The lesson begins with a real world problem that builds on prior knowledge, "Omar is collecting stamps. He has 9 George Washington Stamps. His sister has 27 Malcolm X stamps. A) How many more stamps does Omar's sister have than him? B) How many times greater is Omar's sister's stamp collection than his?" This is a real world situation where students have the opportunity to apply conceptual understanding. In Unit 4, Lesson 2, students find the area of rectangular figures by decomposing them into rectangles and then using the formula for area for each rectangle and adding them together. They solve real-life word problems and find the perimeter of rectilinear figures by adding all sides together (LSSM 4.MD.A.3). LSSM 4.MD.A.2 requires students to use the four operations to solve word problems involving measurement. In Unit 4, Lesson 19, students solve word problems involving liquid volumes that require expressing measurements given in a larger unit in terms of a smaller unit. In Unit 4, Lesson 20, students solve word problems involving intervals of time.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			LSSM 4.OA.A.3 also calls for application. Unit 5, Lessons 1-2, focuses on solving word problems where the remainder is interpreted. Lessons 3-6 focus on multi-step word problems with all 4 operations. In Unit 6, Lesson 10, students focus on solving word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, by using visual fraction models and equations to represent the problem (LSSM 4.NF.B.3D).
	Required **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately. Each lesson has varying components that allow for different types of practice and focus while the additional "Grade 4 Fluency Practice Workbook" provides isolated practice with fluency and procedural skills. For example, in Unit 1, Lesson 2, LSSM 4.OA.B.4.a (find all factor pairs for a given whole number) is addressed which has a rigor component of procedural skill and fluency. The focus of this lesson in the Workshop and Independent Practice components, is on developing the skill. Students identify factors of certain numbers and determine whether or not numbers are factors of a given number. They exhibit procedural skill by determining factors of a given number or if a number is a factor of a given number by using multiplication facts, arrays, skip-

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			counting, or repeated addition. LSSM 4.OA.A.1 calls for conceptual understanding of multiplication as comparison, and LSSM 4.OA.A.2 calls for application of multiplicative comparison to real-world situations. In Unit 1, Lesson 8, students move fluidly between conceptual understanding and application throughout the lesson. Students begin the lesson engaging in application, representing a real-world situation in order to have a context to build understanding. Students then continue to develop conceptual understanding by representing multiplicative comparison statements, such as, "18 is 6 times more than ____," with drawings and then writing a multiplication sentence to match. Later in the lesson, students again engage in application by solving word problems, such as, "Sally is 25 years old. This is 5 times as old as her sister Anna. How old is Anna?" Students then demonstrate conceptual understanding by writing responses to prompts, such as analyzing a sample student's work and explaining why the work is accurate or not. Unit 2 begins with understanding place value and continues to progress through rigor into application standards in Lessons 9 and 10. In Lesson 9, students solve equations by applying their understanding of the ten times relationship between place values. Then, in Lesson 10 students solve equations and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			word problems by applying their understanding of the ten times relationship between place value. Students begin Unit 8 with adding and subtracting metric units and customary units. Then in Lesson 3, students solve multi-step word problems pertaining to measurements. Unit 4, Lesson 2, addresses LSSM 4.MD.A.3, a procedural skill and fluency and application standard. Students develop the procedural skill of finding the area of given shapes throughout the lesson and then apply this skill to real world contextual problems towards the end of the lesson. For example, students solve the following problem: "Jenny draws a rectangle that is 3 ft, 6 in. on one side and 10 in. on the other. What is the area of the square she drew, in inches?"
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. ☒ Yes ☐ No	**Required** **4a)** Materials address the practice standards in such a way as to enrich the content standards of the grade/course; practices strengthen the focus on the content standards instead of detracting from them, in both teacher and student materials.	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade. The materials promote focus and coherence by connecting the practice standards to the content standards. For example, in Unit 6, Lesson 12, students utilize MP.4 (Model the mathematics) while solving problems addressing LSSM 4.NF.3.D. For example, students solve the following problem: "A side of an equilateral triangle is 2/8 cm long. Draw a picture that shows the triangle." In Unit 7, Lesson 7, students analyze another student's work (MP.3 Construct viable arguments and critique

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the reasoning of others) in question 14 of the independent practice component of the lesson. Students solve the following problem: “Darrin put the numbers 7.25, 7.52, 5.72, and 5.27 in order from least to greatest. Is his work correct? Explain.” In Unit 2, Lesson 2, students use appropriate tools strategically (MP.5) when they choose to use place value blocks, drawings, or place value charts to represent multi-digit numbers in expanded form (LSSM 4.NBT.A.2). In Unit 7, Lesson 1, students look for and make use of structure (MP.7) to help them understand decimals (LSSM 4.NF.C.5). In the lesson, the teacher is prompted to ask students, "What happens when we go down a place value, like from hundreds to tens?" The question is used to start a discussion about the structure of the base ten system and that each place value to the right becomes ten times less than the place to the left. Students begin to understand that the place to the right of the ones place is called tenths because the ones place was made ten times less. In addition, each unit has a Unit Overview in which the Math Practices are listed for the teacher. For example, in the Overview for Unit 4, it states that students reason abstractly and quantitatively (MP.2) when they use multiplication and division as an abstract representation to solve word problems in contexts. When they convert between units of measurement, they

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			must use abstract reasoning to determine which operations to use along with ratios in order to convert. In the Overview for Unit 2, it states that students construct viable arguments and critique the reasoning of others (MP.3) when they explain how they compare numbers based on place value and justify how they round numbers to given place values using place value understanding and/or models.
Section II: Additional Criteria of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No	**Required** **5a)** Materials provide all students extensive work with course-level problems. Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**Yes**	Materials provide all students extensive work with grade-level problems. All materials are aligned to grade level content. Aligned content from previous grade levels is specifically called out in the Scope and Sequence documents, Unit Overviews, as well as within the daily lessons in order to create a cohesive narrative for teachers. Little to no instructional time is devoted to review material beyond using previously learned skills and concepts to extend to grade-level expectations. Exercise Based Lessons begin with an Introduction that helps focus student thinking on the learning goal for the day. Then, students engage in a workshop to help develop a deeper understanding of the targeted standard(s). Finally, students engage in Independent Practice in which they independently solve grade-level problems that help students internalize the day's learning. The materials include two

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			lessons that do not include extensive grade-level work, but the lessons are noted in the teacher guide as remediation. For example, Unit 2, Lesson 1 and Unit 3, Lesson 1 are labeled as remediation lessons. All other units and lessons address and assess Grade 4 LSSM. For example, in Unit 2, Lesson 8, addresses LSSM 4.NBT.A.1. Students begin to develop an understanding of the new math in the introduction of the lesson through discussion and models. In the Workshop component of the lesson, students work on the concept through a place value game where they work with a partner to create multiplication equations that show multiplicative relationships. In the Independent Practice component of the lesson, students are given numbers, and they are expected to write the multiplicative relationship between the values of the given digits. Students complete nineteen grade level problems that address LSSM 4.NB.A.1. The question types vary and include open-ended, word problems, and multiple choice items. In the exit ticket component of the lesson, students answer 3 multiple choice questions that require them to select the correct multiplicative relationship for the numbers given and one question requires them to explain the relationship in writing. Another example is evidenced in Unit 8, Lesson 4, which addresses LSSM 4.MD.2. Students learn this new

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			knowledge in the introduction component of the lesson through discussion and modeled thinking. In the Workshop component of the lesson, students work on the skill through working with a partner to fill in equivalent amounts on a chart. In the Independent Practice component of the lesson, students complete twenty-two grade-level practice problems. In the variety of problems, they write decimal forms in expanded form, write dollar amounts in decimal form, and explain their thinking. They are also expected to answer open-ended questions such as, "Which is more, 4 dimes and 6 pennies, or 6 dimes and 4 pennies. Explain using place value." Students answer a variety of questions such as multiple choice, open ended and explain your thinking. In the exit ticket component of the lesson, students answer three multiple choice and one explain your thinking items.
	Required **5b)** Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**Yes**	Materials relate grade-level concepts explicitly to prior knowledge from earlier grades and are designed so that prior knowledge is extended to accommodate new knowledge. Lessons are appropriately structured and scaffolded to support student mastery. Within Scope and Sequence documents and Unit Overviews, clear connections to previous grade-level content are made for teachers. Similarly, lessons make connections between grade level content

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			and prior knowledge in the lesson plan for teachers and in the discussion sequences for students. For example, in Unit 4, students take what they learned in Grade 3 about multiplication and division to extend to working with larger numbers as defined by LSSM 4.NBT.5 and 4.NBT.6. A similar extension of understanding of fractions occurs within Unit 6: Fractions, as students use the conceptual understanding built in Grade 3 to be able to not just recognize and model fractions, but to operate with them (within Grade 4 NF standard limitations). Another example is evidenced in Unit 1, Lesson 5, as students engage with LSSM 4.O.A.1. This standard builds on LSSM 3.OA.1. The lesson is scaffolded to support mastery through the use of a two-part word problem, "Omar is collecting stamps. He has 9 George Washington Stamps. His sister has 27 Malcolm X stamps. A) How many more stamps does Omar's sister have than him? B) How many times greater is Omar's sister's stamp collection than his?" Part A reflects the Grade 3 standard while part B reflects the Grade 4 standard.
	5c) Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.	**Yes**	Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or Standards. The materials use the word "Aim" instead of objective in their lessons. The Aims reflect the language and intent of the LSSM cluster headings and standards. For example,

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Unit 2, Lesson 3's Aim states that students "solve equations by applying their understanding of the ten times relationship between place values." This objective directly relates to the Numbers and Operations in Base Ten (NBT) domain and Cluster A (Generalize place value understanding for multi-digit whole numbers), as well as LSSM 4.NBT.A.1. Unit 4, Lesson 1's Aim states that students "solve for the perimeter of rectangles using formulas when problems explicitly and implicitly ask for perimeter with 2 side lengths given." This objective directly relates to the Measurement and Data (MD) domain and Cluster A (Solve problems involving measurement and conversion of measurements from a larger unit into a smaller unit), as well as LSSM 4.MD.A.3. Another example, Unit 3, Lesson 2's Aim states that students "calculate sums with addends in the hundred thousands by using the standard algorithm." This objective directly relates to the Numbers and Operations in Base Ten (NBT) domain and Cluster B (Use place value understanding and properties of operations to perform multi-digit arithmetic), as well as LSSM 4.NBT.B.4 which states that students "fluently add and subtract multi-digit whole numbers with sums less than or equal to 1,000,000, using the standard algorithm."

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE: Aligned materials make meaningful and purposeful connections that enhance the focus and coherence of the Standards rather than detract from the focus and include additional content/skills to teach which are not included in the Standards. ☒ Yes ☐ No	**Required** **6a)** Materials attend to the full meaning of each practice standard. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standard. Alignments to practice standards are accurate.	**Yes**	Materials attend to the full meaning of each practice standard. Each provided Unit Overview identifies how applicable math practice standards will apply to that unit. Standards of focus are highlighted while specific applications of each practice standard are described in detail. Each individual lesson also lists related math practice standards. For example, Unit 4, Lesson 5, focuses on finding the unknown side length of a rectangle with a given area and additional side length using the formula for area of rectangles (LSSM 4.MD.A.3). In this lesson, students utilize MP.2 (Reason abstractly and quantitatively) and MP.4 (Model with mathematics). Students are asked to find a missing side length by using the area formula (MP.4) and either ask “what X given side = area” or dividing the area by the given side (MP.2). In Unit 5, students utilize MP.4 throughout the unit by decontextualizing multi-step problems and modeling them with equations that include variables for multiple unknowns. Unit 2, Lesson 11 focuses on comparing and ordering numbers through the hundred thousands place. Students use place value charts to model numbers (MP.4) and use the place value structure of the numbers to compare as well (MP.7, Look for and make use of structure). In Unit 6, Lesson 18, students model fractions using fraction strips or visual representations (MP.4). In Unit 9, Lesson

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			4, students construct viable arguments (MP.3) in the Independent Practice section of the lesson with the question, "Can a triangle have more than one obtuse angle? Explain."
	Required **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving as a form of argument, attending thoroughly to places in the Standards that explicitly set expectations for multi-step problems.	**Yes**	Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards. The majority of lessons provide the students opportunities to engage in viable arguments and critiques of others. Within each lesson, students are asked to develop and defend multiple strategies they could use to attend to the task. This is present in materials because of the lesson design as an exercise-based approach, but also done strategically to address places in the standards where students are expected to be able to do so. One such example is evidenced within Unit 4: Multiplication and Division. Students learn a variety of strategies to calculate and must be able to explain the reasoning behind each step based on place value and meaning of multiplication and division. Additionally, students must be able to analyze calculation strategies of others to determine whether or not they are correct, why they took each step, and if anything is incorrect and why. Students are given another opportunity to share strategies midway during the

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			lesson in mid workshop interruption. Unit 1, Lesson 7, focuses on multiplicative comparison of larger unknowns and students compare bar models during this lesson. In Unit 5, Lesson 4, students create and solve two step word problems from tape diagrams and equations. During the lesson, students critique each other's tape diagrams during the mid-workshop interruption. In Unit 7, students compare and order decimals. Students explain their mathematical reasoning to the class on why they chose the greater than, less than, or equal to sign. In Unit 7, Lesson 10, Independent Practice, item 2, students complete an error analysis of a student's work and justify their answer by explaining. In Unit 2, Lesson 14, students begin the lesson by rounding using the place value chart and number lines. In the Independent Practice section of the lesson, item 11, students are given a student's work and are required to analyze the work and explain whether or not the student's answer is correct.
	6c) There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.	**No**	Materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Aligned practice standards are listed and described in the Unit Overview and include the way in which students authentically develop the math practices across the whole unit. The practices specific to a lesson are listed at the start

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			of the lesson. However, the materials do not state a purpose and intent for the practice standards within each lesson. The only guidance on how the students should utilize the practice standards is provided in the Unit Overview. Without specific guidance in the lessons, the materials do not support teachers in helping students develop the math practices overtime. Guidance is not provided in such a way to help teachers identify other opportunities to develop the practices in other areas.
	6d) Materials explicitly attend to the specialized language of mathematics.	**Yes**	Materials explicitly attend to the specialized language of mathematics. Within each lesson there is a Vocabulary section where the vocabulary for that lesson is defined. For example, in Unit 8, Lesson 3, the mathematical focus is on solving multi-step word problems with all four operations using mixed metric and customary units by visualizing, representing, and choosing from a variety of strategies to solve. The vocabulary is listed and defined and includes “Mixed units - a measurement formed from 2 different units (i.e. 5 ft., 6 in.) or an equation involving more than 1 unit.” Sample student responses are provided that reflect the language expectations of the students, such as “we had to convert from gallons to quarts then divide to give our amount in quarts” and “if the question asks us for mixed units or if the numbers are easy to multiply or divide.”

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Unit 2, Lesson 13 focuses on rounding numbers through 999,999 to the nearest ten, hundred, or thousand by using number lines. The vocabulary is listed and defined and includes: "Rounding - approximating the value of a given number." As students respond to rounding questions, they are expected to use the appropriate place value names. Each lesson has a specified vocabulary section with words that are aligned to the content standards. Also, the vocabulary in Unit 3, Lesson 3 include addend, sum and standard algorithm. Students often refer to specific place value positions as they add numbers.
7. INDICATORS OF QUALITY: Quality materials should exhibit the indicators outlined here in order to give teachers and students the tools they need to meet the expectations of the Standards. ☒ Yes ☐ No	**Required** **7a)** There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Students are expected to produce oral answers, solutions, models, written explanations, and oral or written critiques. Throughout units students use models, including concrete, pictorial or abstract, to show their understanding of concepts being developed. They are often asked to defend their thinking with clear arguments and explanations. For example, within Unit 6: Fractions, students use models to explore and justify the addition and subtraction of mixed numbers, modeling the regrouping of fractions parts to whole numbers (or whole numbers to fractional parts) as needed to accurately calculate. Unit 1, Lesson 11, focuses on multiplicative

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			comparison as students interpret multiplication equations as a multiplicative comparison statement. Students create bar models, match the comparative statement to the equation, as well as answer open-ended questions with the opportunity to explain. Also, Unit 6, Lesson 25, students interpret and solve word problems based on line plots. This lesson contains open-ended questions, as well as multiple choice questions. Identifying and drawing parallel and perpendicular lines is the focus of Unit 9, Lesson 2. In the lesson, students are asked to identify parallel and perpendicular lines on shapes, as well as draw a model, and give an explanation of parallel and perpendicular lines.
	Required **7b)** There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of student responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Yes**	Materials provide separate teacher materials that support and reward teacher study. The materials contain a "Guide to Implementing AF Math: Grade 4." This guide provides information about the lesson structures, unit lessons, daily aims (objectives), and aligned standards. Each unit also includes its own Unit Overview with more detailed information for the teacher. This document provides standards, previous grade level standards, enduring understandings, a narrative version of the learning, models and visuals of learning, math practice standard connections. The Narrative describes the ways in which students will develop their understanding of the

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			content over the course of the unit and is followed by key strategies. Additionally, it provides significant information about previous learning and learning challenges including pre-requisite skills, potential misconceptions (with clarifications), and a detailed lesson sequence. Each Unit Overview also includes relevant teacher background cited directly from other sources, such as the Common Core Standards Progression Document. For example, the Unit 4 Overview identifies the standards that are addressed in the lessons and include LSSM 4.NBT.B.5, 4.NBT.B.6, 4.MD.A.1, and 4.MD.A.3. Guidance on what it looks like in the unit is included, such as "Students use place value patterns and the concept of each place value being ten times greater than the one before it to understand how to multiply and divide multiples of 10 easily." The Narrative details the progression of learning within the unit and provides examples and pictures of strategies used during the unit, such as place value arrays, abstract partial products, and area models. Key Strategies for multiplication and division are provided in a table and are followed by concrete, abstract, and pictorial representations used within the unit. A learning progression graphic is provided, followed by examples of Standards for Mathematical Practices utilized in the lesson. For example, students utilize MP.2

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			(Reason abstractly and quantitatively) as they "use multiplication and division as an abstract representation to solve word problems in context." Additionally, prerequisite skills, such as "Determine the area and perimeter of rectangles" and "Multiply multiples of 10 mentally" are provided. Several misconceptions are provided with clarification statements and examples.
	7c) Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	**No**	Materials do not include support for English Learners and other special populations. In the Unit Overviews and lessons, there is no evidence of support for English Learners. For example, in Unit 5, Lesson 2, vocabulary for the lesson is given in English and possible misconceptions are provided, but supports are not offered for English Learners. In Unit 3, Lesson 7, suggestions for intervention and extension are provided, however there is no evidence of support for English Learners.
	7d) The underlying design of the materials distinguishes between problems and exercises. In essence, the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	**Yes**	The underlying design of the materials distinguishes between problems and exercises. As explained in the "Guide to Implementing Achievement First: G4" the materials incorporate two different lesson structures: Exercise Based Lesson and Task Based Lesson. Each Exercise Based lesson is designed so that students dive into a problem together, developing an understanding of a new concept and strategies they might apply to solve such problems. From there, students are

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			released to Workshop and Independent Practice for them to engage in multiple opportunities to apply their understanding and build mastery and fluency where applicable. The materials also provide fluency practice, when applicable, and an exit ticket. For example, in Unit 7, Lesson 4, students utilize the workshop to model equivalents of tenths and hundredths. Following a discussion, students then apply this knowledge by independently solving problems that include finding equivalent fractions, shading areas models to show the equivalency, and recording it as a decimal. In a Task Based Lesson, students participate in an exploration and discussion that involve problem solving tasks aligned to recently learned content. They then apply their acquired knowledge in the extension component of the lesson.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Yes**	Lessons are appropriately structured and scaffolded to support student mastery. The materials use an 'I do, we do, and you do' structure. Each lesson begins with a posed question. The teacher guides the students through this problem. The lesson progresses into a workshop. During the Workshop, students work together to persist through problems. The lesson continues with Independent Practice and finishes with an Exit Ticket. Students work together to develop a range of working strategies for the new mathematical

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			concepts, then are released to a workshop for independent or partner application, followed by a discussion to extend or remediate based on data collected by the teacher. For example Unit 3 begins with the following posed question, "The Ovarian Cancer research center raised $215,698 in 2014, and $42,671 in 2013. How much money did they raise in both years combined?" During the Workshop, students solve addition problems using any strategy. During Independent Practice, students add using whatever strategy makes sense to them. Each lesson builds off of prior knowledge from the previous grade level. For example, in Unit 2, Lesson 13, the lesson begins with students rounding whole numbers to the nearest 10 & 100 from Grade 3 LSSM 3.NBT.1 and then gradually moves into rounding to the nearest 1,000 (LSSM 4.NBT.3). In Unit 1, Lesson 1, the lesson begins with students connecting multiplication to their prior knowledge of repeated addition as multiplication to gradually work their understanding to LSSM 4.O.A.4.
	7f) Materials support the uses of technology as called for in the Standards.	**Yes**	This section was not evaluated because the non-negotiable criteria were not met.
FINAL EVALUATION ***Tier 1 ratings*** receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality. ***Tier 2 ratings*** receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality. ***Tier 3 ratings*** receive a "No" for at least one of the Non-negotiable Criteria.			
Compile the results for Sections I and II to make a final decision for the material under review.			

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section	**Criteria**	**Yes/No**	**Final Justification/Comments**
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	Materials devote a larger majority of time to the major work of the grade. Materials spend minimal time on content outside of the appropriate grade level.
	2. Consistent, Coherent Content	**Yes**	Materials connect supporting content to major content in meaningful ways, so that focus and coherence are enhanced throughout the year. Materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the grade level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	Materials develop conceptual understanding of key mathematical concepts. Materials are designed so that students attain the fluency and procedural skills required by the standards. Materials are designed so that students spend sufficient time working with engaging applications. It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately.
	4. Focus and Coherence via Practice Standards	**Yes**	Materials address the practice standards in such a way to enrich the content standards of the grade.
II: Additional Criteria of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	Materials provide all students extensive work with grade-level problems. Materials relate course-level concepts explicitly to prior knowledge from earlier

[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.
[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			grades and courses. Materials include learning objectives that are visibly shaped by LSSM cluster headings and/or standards.
	6. Alignment Criteria for Standards for Mathematical Practice	**Yes**	Materials attend to the full meaning of each practice standard. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.
	7. Indicators of Quality	**Yes**	In the materials, students are asked to produce answers in a variety of ways. Materials provide separate teacher materials that support and reward teacher study. The underlying design of the materials distinguishes between problems and exercises. Lessons are appropriately structured and scaffolded to support student mastery. However, materials do not include support for English Learners and other special populations. The LSSM do not call for use of the technology in Grade 4.
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Instructional materials are one of the most important tools educators use in the classroom to enhance student learning. It is critical that they fully align to state standards—what students are expected to learn and be able to do at the end of each grade level or course—and are high quality if they are to provide meaningful instructional support.

The Louisiana Department of Education is committed to ensuring that every student has access to high-quality instructional materials. In Louisiana all districts are able to purchase instructional materials that are best for their local communities since those closest to students are best positioned to decide which instructional materials are appropriate for their district and classrooms. To support local school districts in making their own local, high-quality decisions, the Louisiana Department of Education leads online reviews of instructional materials.

Instructional materials are reviewed by a committee of Louisiana educators. Teacher Leader Advisors (TLAs) are a group of exceptional educators from across Louisiana who play an influential role in raising expectations for students and supporting the success of teachers. Teacher Leader Advisors use their robust knowledge of teaching and learning to review instructional materials.

The 2019-2020 Teacher Leader Advisors are selected from across the state and represent the following parishes and school systems: Ascension, Beauregard, Bossier, Caddo, Calcasieu, Caldwell, City of Monroe, Desoto, East Baton Rouge, Einstein Charter Schools, Iberia, Jefferson, Jefferson Davis, KIPP New Orleans, Lafayette, Lafourche, Lincoln, Livingston, LSU Lab School, Orleans, Orleans/Lusher Charter School, Ouachita, Plaquemines, Pointe Coupee, Rapides, Richland, RSD Choice Foundation, St. John the Baptist, St. Charles, St. James, St. Landry, St. Mary, St. Tammany, Tangipahoa, Vermillion, Vernon, West Baton Rouge, West Feliciana, and Zachary. This review represents the work of current classroom teachers with experience in grades K-5.

Appendix I.

Publisher Response

The publisher had no response.

Appendix II.

Public Comments

There were no public comments submitted.