Instructional Materials Evaluation - Student Standards Review

Louisiana educators engaged in a professional review of the state's academic standards for English language arts (ELA) and mathematics to ensure they continue to maintain strong expectations for teaching and learning aligned with college and workplace demands. The new ELA and math standards will be effective beginning with the 2016-2017 school year. As part of the Louisiana Department of Education's support for a seamless transition to these new standards, the LDOE identified the major changes of the standards and their potential impact upon criteria used to review instructional materials.

Title: **Creative Math Curriculum with STEM, Literacy and Arts** Grade: **6-8**

Publisher: **TPS Publishing Inc.** Copyright: **2016**

Overall Rating: **Tier III, Not representing quality**

This Mathematics review has been examined for the following major shifts in alignment resulting from the Louisiana Student Standards Review:

- Include standards for money in grades K, 1, and 3 to ensure connections that provide smooth transitions from one grade to the next
- Provide developmentally appropriate content for all grades or courses while maintaining high expectations:
    - Additive area is moved to grade 4 from grade 3
    - The Statistics - Conditional Probability and the Rules of Probability (S-CP) domain is moved from Algebra II to Geometry
    - The standards provide extra clarity around the distinction between Algebra I and II

The following two indicators may be impacted:

- Focus on Major Work (Non-Negotiable)
- Consistent, Coherent Content (Non-Negotiable)

This review remains a Tier 3 rating. As a result of these changes, the following chart identifies the potential impact on specific elements in the current review. The LDOE recommends that district curriculum staff, principals, and teachers take these findings into consideration when using these instructional materials.

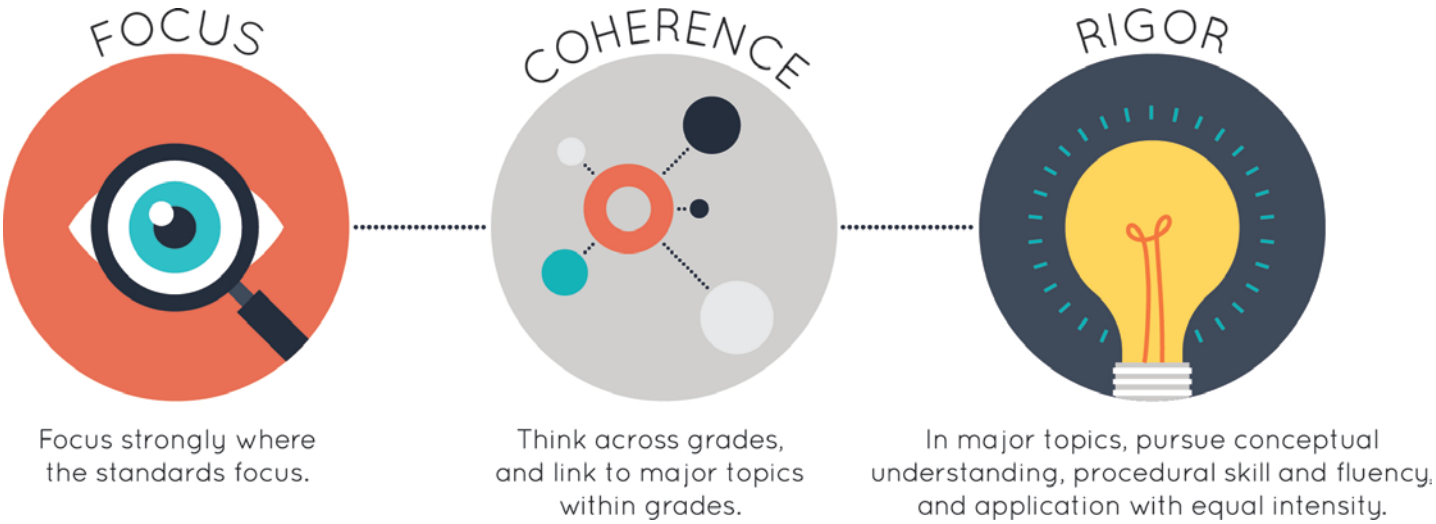
Criteria	Currently in the Rubric	Next Steps for Educators
Focus on Major Work (Non-Negotiable)	This program currently is reviewed as "No" for this criterion because materials do not devote a large majority of class time to the major work of each grade. The publisher's pacing guide states that a large majority of class time is spent on major work of the grade. However, this is not true in terms of how the materials are organized and addressed.	Since these materials received a "No" for this indicator, the current weakness will likely remain and should be addressed by adjusting or supplementing with stronger programs.
Consistent, Coherent Content (Non-Negotiable)	This program currently is reviewed as "No" for this criterion because materials and lessons focus on one standard at a time with no connections between major work and supporting work. Materials do very little to connect two or more domains.	Since these materials received a "No" for this indicator, the current weakness will likely remain and should be addressed by adjusting or supplementing with stronger programs.

DEPARTMENT of EDUCATION
Louisiana Believes

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

FULL CURRICULUM
Instructional Materials

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts**

Grade/Course: **6-8**

Publisher: **TPS Publishing Inc.**

Copyright: **2016**

Overall Rating: **Tier III, Not representing 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 Coh. via Practice Std (Non-Negotiable)
	*Strong in Grade 8

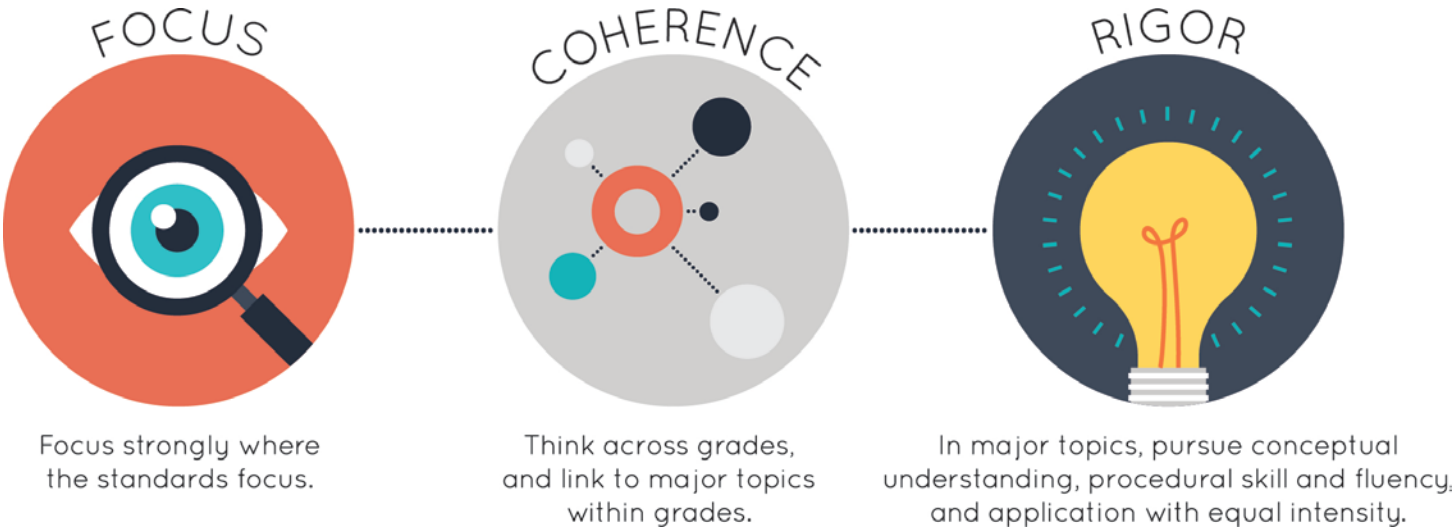
Each set of submitted materials was evaluated for alignment with the standards beginning with a review of the indicators for the non-negotiable criteria. If those criteria were met, a review of the other criteria ensued.

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 (Criteria 1 – 4), but at least one "No" in Column 1 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 6 (Tier 3) Grade 7 (Tier 3) Grade 8 (Tier 3)

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts** Grade/Course: **6**

Publisher: **TPS Publishing Inc.** Copyright: **2016**

Overall Rating: **Tier III, Not representing 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 Coh. via Practice Std (Non-Negotiable)

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.			
Non-Negotiable **1. FOCUS ON MAJOR WORK[1]:** Students and teachers using the materials as designed devote the large majority[2] 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.	**No**	The publisher's pacing guide states that 69% of class time is spent on major work. However, this is not necessarily true in terms of the how the materials are organized and addressed. Direct instruction of the mathematical concepts focuses on approximately 19% of the class periods (44 out of 230 classes as outlined in the pacing guide and materials presented) while 81% of the class periods (186 out of 224) are STEM activities. In most cases, the STEM activities do support the major work, however the time allotted for STEM activities is disproportionate to the actual teaching and developing the skills and conceptual understanding of the major work. For example, the pacing guide assigns 1 hour of time to 6.RP.1 for the Amelia Rose Activity Reader. While the story on the periodic table may take 1 hour to read and discuss, 1 hour of time is not spent on the tagged standard 6.RP.1. On page 7, after reading and discussing the story, students are asked to explain the ratio of elements in the first row to elements in the second row. This question is not 1 hour worth of time on 6.RP.1. The pacing guide also assigns 1 hour each to 6.RP.2 and 6.RP.3a for the next Amelia Rose story. On page 16 of the reader, students are asked to find the unit rate of cost per pan and answer a word problem. Solving these 2 problems would not constitute 2 hours of time spent on 6.RP2 and 6.RP.3a.
	REQUIRED **1b)** In any one grade/course, aligned 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 aligned materials there are no chapter tests, unit tests, or other	**No**	Many STEM learning cycles and Amelia Rose activities focused above and below 6th grade math content. For example, on page 35, students must measure angles (4.MD.5) to complete the activity. A goal of the Learning Cycle 6, "Walk This Way," is to find prime and composite number (4.OA.4). In Learning Cycle 9, "Measuring with Fractions,"

[1] For more on the major work of the grade, see Focus by Grade Level.
[2] 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
	such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.[3]		students must add and subtract fractions (5.NF.1 and 5.NF.6). In Learning Cycle 10, "Measures of Geoboards," students focuses on the multiplication of fractions, whole numbers, and mixed numbers (5.NF.3). In Learning Cycle 14, "Tour of Trash," students uses exponential and scientific function (8.EE.1 and 8.EE.4). In Learning Cycle 16, "Stake Your Claim," students add integers (7.NS.1). In Learning Cycle 13 "What's Your Type," the activity has students find probability (7SP.7). In Learning Cycle 24, "Go with the Flow," the activity has students calculate the volume of a cylinder (8.G.9) and area of a circle (7.G.4). In Learning Cycle 8, "Moving On," the problems involve an objective related to scale drawings (7.G.1). Students are accountable for future standards within assessment components of these learning cycles.
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.[4]	**Yes**	When grade level standards are used, materials connect supporting content to major content in meaningful ways. For example, STEM Learning Cycle 14, "A Tour of Your Trash," connects 6.G.2 and 6.RP.3 where students find the volume of a rectangular prisms and percents. On page 300 and 303 in Teacher Material, exercises connected 6.EE.2, 6.G.1 and 6.G.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. [5]	**No**	The traditional textbook focuses on single topics and does very little to connect two or more domains. Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned. For example, STEM Learning Cycle 2, "Show Me the Numbers," the focus is on data collection and display. Students investigate the relationship between wheel circumference and the distance the wheel travels, and then they display the data. The teacher's edition connects 2 clusters with 6.EE.8 and 6.EE.9 in this

[3] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[4] Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[5] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
			lesson, but it is not clear how these two standards align with this learning cycle. Another example is STEM Learning Cycle 9, Measuring with Fractions. The teacher's edition connects standards within 2 domains, 6.EE.4 and 6.NS.3, however it is not clear how either of these standards align with this learning cycle.
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.[6] ☐ 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.	**No**	For the most part, there are some opportunities in the curriculum for students to develop conceptual understanding of some standards. For example in Lesson 5, students model percents using tape diagrams to find the whole when given a part and a percent. The material includes an explanation that percent is the same as a fraction with hundredths. In Lesson 7, division of fractions by fractions is related to what students already know about division of whole numbers. They also fold circles to model ¾ divided by ¼ is 3 because there are 3 lots of ¼ in ¾. However, there are some inconsistencies in the development and understanding of ratios (6.RP.1 and 6.RP.2) where incorrect material is presented.
	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.	**No**	6.NS.2 specifically calls for fluency with dividing multi-digit numbers using the standard algorithm. In Lesson 8 in the Traditional Textbook TE, there are 37 problems in which students divide multi-digit numbers using the standard algorithm. The pacing guide provided by the publisher identifies STEM project 11 as aligned to 6.NS.2, however it is not evident how students would be dividing multi-digit numbers using the standard algorithm in this learning cycle. There are no other opportunities in the curriculum for students to develop fluency with this standard. 6.NS.3 calls for fluency with adding, subtracting, multiplying, and dividing multi-digit decimals using the standard algorithm for each operation. Lesson 9 in the Traditional Textbook TE, there are 6 problems of each operation. STEM

[6] Refer also to criterion #4 in the K–8 Publishers' Criteria and #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
			Lesson 9, Measures with Fractions, identifies 6.NS.3 as being addressed, however, operations with decimals are not evident in this learning cycle. There are no other opportunities for students to build fluency with 6.NS.3 in the curriculum.
	REQUIRED **3c)** ***Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, without losing focus on the major work of each grade/course 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**	There are many opportunities throughout the curriculum for students to apply their understanding of grade 6 standards. In Lesson 3 in the teacher's edition, students apply 6.RP.3a to solve real-world problems by drawing tables and determining if given ratios are equivalent. In Lesson 4, students create and use tape diagram and double number line models to solve real-world problems (6.RP.3b).
	REQUIRED **3d)** ***Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	The three aspects of rigor are not always treated together and are not always treated separately. For example, in the STEM learning cycles, students apply standards to real-world and mathematical problems as well as sometimes develop conceptual understanding. In the Traditional Textbook, students develop procedural skill and apply standards to real-world and mathematical problems. For example, procedural skill is sometimes treated alone, such as in the traditional textbook lesson focused on 7.RP.1 where students have multiple problems to practice procedural skill with computing unit rates.
Non-Negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the major work of the grade/course; practices strengthen the focus on major work instead of detracting from it, in both teacher and student materials.	**No**	The STEM component of the curriculum provides opportunities for students to engage in mathematical practices. For example, in STEM Learning Cycle 1, Need for Speed, students look for and express regularity in repeated reasoning when they analyze patterns in a table to discover the formula for speed and then build cars and find the speed (MP8). However, the mathematical practices

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
emphasized in the Standards.[7] ☐ Yes ☒ No			are sometimes noted inaccurately. At the top of each page in the Traditional Textbook TE, the mathematical practices are noted where they are supposed to be present. They are generously noted, however, many times where not present. For example, on page 21 of the teacher's edition, MP1 and MP2 are noted. In this lesson, students are writing ratios and unit rates for given situations. Considering that the lesson taught students to simply divide both terms by the smaller term to get the unit ratio, the problems do not require students to make sense of anything, persevere, or reason about numbers. They are simply following a procedure. On pages 23-28 of the teacher's edition, MP3 is noted. Nowhere on these pages are students asked to justify work, construct an argument or critique the reasoning of others.
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY			
Additional Criterion **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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5c) Materials base content progressions on the progressions in the Standards.[8]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

[7] Refer also to criterion #8 in the K–8 Publishers' Criteria and #6 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013)
[8] Refer also to criterion #5 in the K–8 Publishers' Criteria and #3 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.[9]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives. [11]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
Additional Criterion **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	**6a)** Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[10] 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.[11] There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Alignments to practice standards are accurate.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	6b) Materials Support the Standards' Emphasis on Mathematical Reasoning: 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. [12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	6c) Materials explicitly attend to the specialized language of mathematics.[12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
Additional Criterion **7. INDICATORS OF QUALITY:** Quality materials should exhibit the	**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,	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

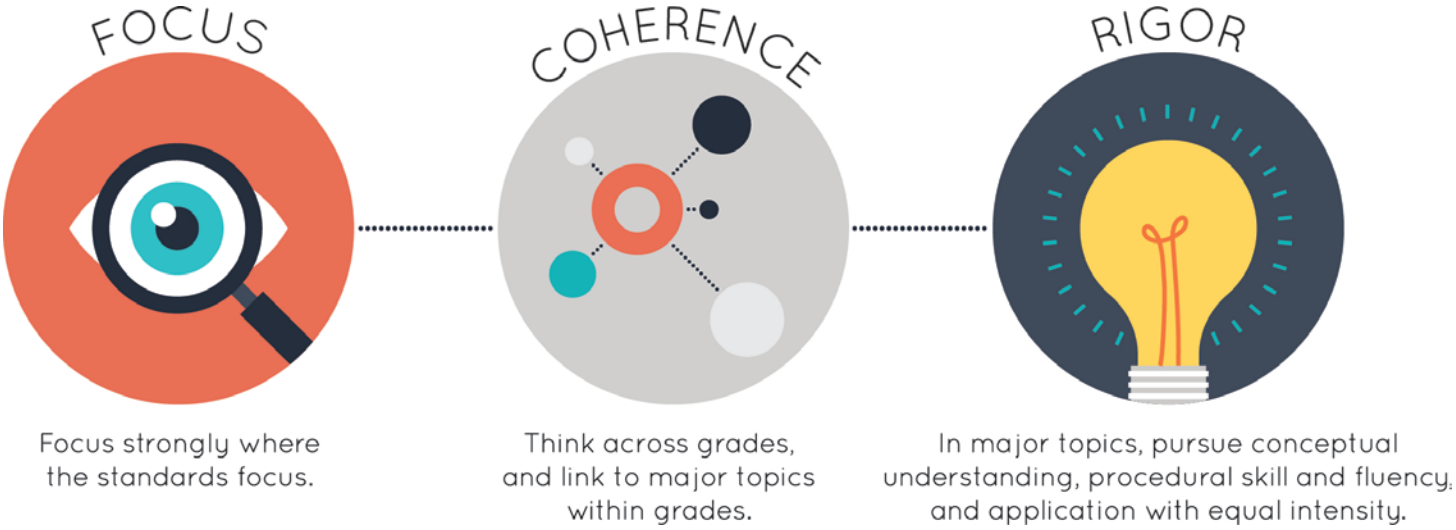
[9] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[10] Refer also to criterion #9 in the K–8 Publishers' Criteria and #7 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[11] Refer also to criterion #7 in the K–8 Publishers' Criteria and #5 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[12] Refer also to criterion #10 in the K–8 Publishers' Criteria and #8 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
indicators outlined here in order to give teachers and students the tools they need to meet the expectations of the Standards. [13] ☐ Yes ☐ No	arguments and explanations, diagrams, mathematical models, etc.		
	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 students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7f) Materials support the uses of technology as called for in the Standards.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

[13] Refer also to pages 18-20 in the K – 8 Publishers' Criteria and pages 16-18 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
FINAL EVALUATION ***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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria. ***Tier 3 ratings*** receive a "No" in Column 1 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-Negotiables	1. Focus on Major Work	**No**	Materials spent more time on STEM activities than developing fluency and conceptual understanding of the major work.
	2. Consistent, Coherent Content	**No**	Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned.
	3. Rigor and Balance	**No**	In the Traditional Textbook Teacher Edition, there are multiple mistakes in the major content taught.
	4. Focus and Coherence via Practice Standards	**No**	The mathematical practices are often listed, but not linked; and, in some cases inaccurately noted.
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	6. Alignment Criteria for Standards for Mathematical Practice	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7. Indicators of Quality	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
FINAL DECISION FOR THIS MATERIAL: **Tier III, Not representing quality**			

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts** Grade/Course: **7**

Publisher: **TPS Publishing Inc.** Copyright: **2016**

Overall Rating: **Tier III, Not representing 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 Coh. via Practice Std (Non-Negotiable)

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.			
Non-Negotiable **1. FOCUS ON MAJOR WORK[14]:** Students and teachers using the materials as designed devote the large majority[15] 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.	**No**	The publisher's pacing guide states that 62% of class time is spent on major work. However, this is not necessarily true in terms of the how the materials are organized and addressed. Direct instruction of the mathematical concepts focuses on approximately 23% of the class periods (i.e., 51 out of 224 classes as outlined in the pacing guide and materials presented) while 77% of the class periods (i.e., 173 out of 224) are STEM activities. In most cases, the STEM activities do support the major work, however the time allotted for STEM activities is disproportionate to the actual teaching and developing the skills and conceptual understanding of the major work. For example, Amelia Rose Reader Chapter 1, pages 1-12, focuses on energy transformation in plants. The standards listed as aligned with this story are 7.EE.1-7.EE.4a. Following the story, which does not connect to any math standards, students are asked to answer 5 real-world math problems. The pacing guide provided by the publisher allots 3 class hours to this story, however 3 hours would not be spent on the major content standards identified. Amelia Rose Reader Chapter 3, pages 22-31, focuses on energy transformation within the human body. The standards listed as aligned with this story are 7.NS.1a-d, 7.NS.2a-d, and 7.NS.3. On pages 30-31, students solve 2 real-world, multi-step problems using rational numbers. This is the only alignment of these standards to this story. The pacing guide provided by the publisher allots 9 class hours to this story, however, 9 class hours are not spent on the tagged standards. Amelia Rose Reader pages 39-41, students are asked to answer 1 question for each standard 7.RP.1, 7.RP.2a, 7.RP.2b, 7.RP.2c, and

[14] For more on the major work of the grade, see Focus by Grade Level.
[15] 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
			7.RP.2d. The pacing guide provided by the publisher assigns 2 class hours to these standards using Amelia Rose.
	REQUIRED **1b)** In any one grade/course, aligned 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 aligned 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.[16]	**No**	On pages 32-33 of the student workbook, students are asked to identify whether given expressions are rational or irrational (8.NS.1). In addition, there are a number of instances in the STEM Projects where the publisher has assigned 7th grade standard numbers to 8th grade standards. For example, Chapter 1 "The Need for Speed", the materials list 7.EE.5 (which does not exist) for 8.EE.2 and allot 5 class periods to this activity. In Chapter 9 "What's Shakin'?," the materials list 7.EE.6 (which does not exist) for 8.EE.3 and allot 13 class periods to this activity. In Chapter 10, "Physical Properties of Materials," the materials list 7.NS.4 and 7.NS.5 (which do not exist) for 8.NS.1 and 8.NS.2, respectively, and allot 7 class periods to this activity. Other activities require students to address content above grade. For example in Learning Cycle 18 "The Beat is On" students are required to identify and compare linear and non-linear functions (8.EE.7 and 8.F.1-5).
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.[17]	**No**	Lessons within the traditional textbook focus on one standard at a time with no connections between the major work, supporting work or addition work. STEM activities do make connections between some of the standards but for the most part focus on either major work or supporting work with no connection between the two. For example, STEM Learning Cycle 12, "The Balancing Act," focuses on supporting content 7.SP.1 and 7.SP.2 with no connections to major content. STEM Learning Cycle 11, "Made to Order," is aligned to supporting content 7.SP.5-7.SP.8 with no connections to major content. STEM Learning Cycle 23, "The Art of Balancing," is aligned to major content 7.NS.1b and 7.EE.4b. In addition, there is a STEM Learning Cycle

[16] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[17] Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
			4, "Learning to Communicate," that is not aligned to any standards.
	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. [18]	**No**	The traditional textbook focuses on single topics and does very little to connect two or more domains. The STEM activity material does connect multiple domains however these activities are not necessarily aligned to the material time wise being addressed in the traditional textbook. For example Learning Cycle 5 "Orienteering," pages 73-85 in the STEM material connects 7.RP.1 and 7.G.1 where students have to determine a scale for a map and write the scale in the form of a ratio. At this point, students have been taught 7.RP.1 in the traditional material but have not been exposed to 7.G.1.
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.[19] ☐ 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.	**No**	The Traditional Textbook focuses mostly on application and procedural fluency with few opportunities for students to develop conceptual understanding. In the Traditional Textbook Teacher's Edition, the lesson that focuses on 7.RP.2a, pages 17-32, tells students that proportional quantities will form a straight line that passes through the origin, however, there is no discussion of why this is true. For example, 7.NS.2c specifically calls for conceptual understanding of subtraction of rational numbers as the additive inverse. In the Traditional Teacher Textbook, pages 125-141, there are no opportunities for students to develop this conceptual understanding. While the commentary provided to the teacher tells students that subtraction of rational numbers is the same as adding the additive inverse, there are no discussion questions (in the teacher's edition or the student edition) asking students to explain their understanding. STEM Learning Cycle 19, The Right Kind of Fuel, is tagged to 7.NS.2c as well. While this

[18] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[19] Refer also to criterion #4 in the K–8 Publishers' Criteria and #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
			learning cycle builds understanding of the commutative and associative properties, it does not build the conceptual understanding of subtraction of rational numbers as required by the standard.
	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.	**No**	There is a lack of exercise where students demonstrate fluency for the grade level standards (7.EE.4). In Lesson 8 in the tradition textbook materials, there are 37 problems over two class periods where students are to develop procedural fluency. In the STEM Learning Cycle 23, "The Art of Balancing," is aligned to 7.EE.4a, however student have minimal opportunity to practice developing fluency. These are the only two opportunities for students to develop fluency with this standard. Other standards where fluency and procedural practices is required also lack significant practice time and problems. For example, 7.NS.3 requires students to be able to solve real world problems using rational numbers. There are only 46 procedural problems in the student textbook (pages 135-145).
	REQUIRED **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, without losing focus on the major work of each grade/course 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**	The STEM Learning Cycles provide students ample opportunities to apply mathematical applications to real-world problems. For example, STEM Learning Cycle 16, "How Much Makes One?," pages 237-235, students discover the cross-multiplication algorithm for solving proportions and then apply this algorithm to set up and solve proportions to determine the amount of food, calories, etc. they took in the previous activity.
	REQUIRED **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	Procedural skill and application are frequently treated together in the traditional textbook. Procedural skill is sometimes treated alone, such as in the traditional textbook lesson focused on 7.RP.1

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
			where students have multiple problems to practice procedural skill with computing unit rates.
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.[20] ☐ Yes ☒ No	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the major work of the grade/course; practices strengthen the focus on major work instead of detracting from it, in both teacher and student materials.	**No**	Even though Mathematical Practices are noted in the Traditional Textbook Teacher's Edition and the STEM Learning Activity materials, there are not opportunities provided for students to apply MP3. The STEM component of the curriculum provides opportunities for students to engage in mathematical practices. For example, in STEM Learning Cycle 1, students look for and express regularity in repeated reasoning when they analyze patterns in a table to discover the formula for speed and then build cars and find the speed (MP8). However, the mathematical practices are sometimes noted inaccurately. For example, in STEM Learning Cycle 6, "Traveling Around," all the mathematical practices 1-8 are tagged at the top of the page. However, within this cycle, students are not looking for and making use of structure (MP7) or looking for and expressing regularity in repeated reasoning (MP8). At the top of each page in the Traditional Textbook Teacher's Edition, the mathematical practices are noted where they are supposed to be present, but at times are not present. For example, on pages 164-180 of the teacher's edition, MP1, MP2, and MP3 are noted. In this lesson, students are not asked to explain their thinking, to construct any arguments, or to critique the reasoning of others (MP3). Students are simply multiplying rational number by following a procedure, in which case they are having to persevere, make sense of anything, or reason about quantities (MP1 and MP2). On pages 142-163 of the teacher's edition, MP3 is noted. However, nowhere on these pages are students asked to justify work, construct an argument or critique the reasoning of others. Also on these pages, MP7 and MP8 are noted. While it would be valuable to have students look for and make use of structure with properties of operations

[20] Refer also to criterion #8 in the K–8 Publishers' Criteria and #6 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013)

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
			and look for and express regularity in repeated reasoning with the math on these pages, there are no questions that would encourage students to think this way.
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY			
Additional Criterion **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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5c) Materials base content progressions on the progressions in the Standards. [21]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.[22]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives. [11]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
Additional Criterion **6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE:** Aligned materials make meaningful	**6a)** Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[23] 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	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

[21] Refer also to criterion #5 in the K–8 Publishers' Criteria and #3 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[22] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[23] Refer also to criterion #9 in the K–8 Publishers' Criteria and #7 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
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	stimulate students to develop the habits of mind described in the practice standard.[24] There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Alignments to practice standards are accurate.		
	6b) Materials Support the Standards' Emphasis on Mathematical Reasoning: 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. [25]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	6c) Materials explicitly attend to the specialized language of mathematics.[12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
Additional Criterion **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. [26] ☐ Yes ☐ No	**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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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 students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

[24] Refer also to criterion #7 in the K–8 Publishers' Criteria and #5 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[25] Refer also to criterion #10 in the K–8 Publishers' Criteria and #8 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[26] Refer also to pages 18-20 in the K – 8 Publishers' Criteria and pages 16-18 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
	of desired mathematical behaviors being elicited among students.		
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7f) Materials support the uses of technology as called for in the Standards.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

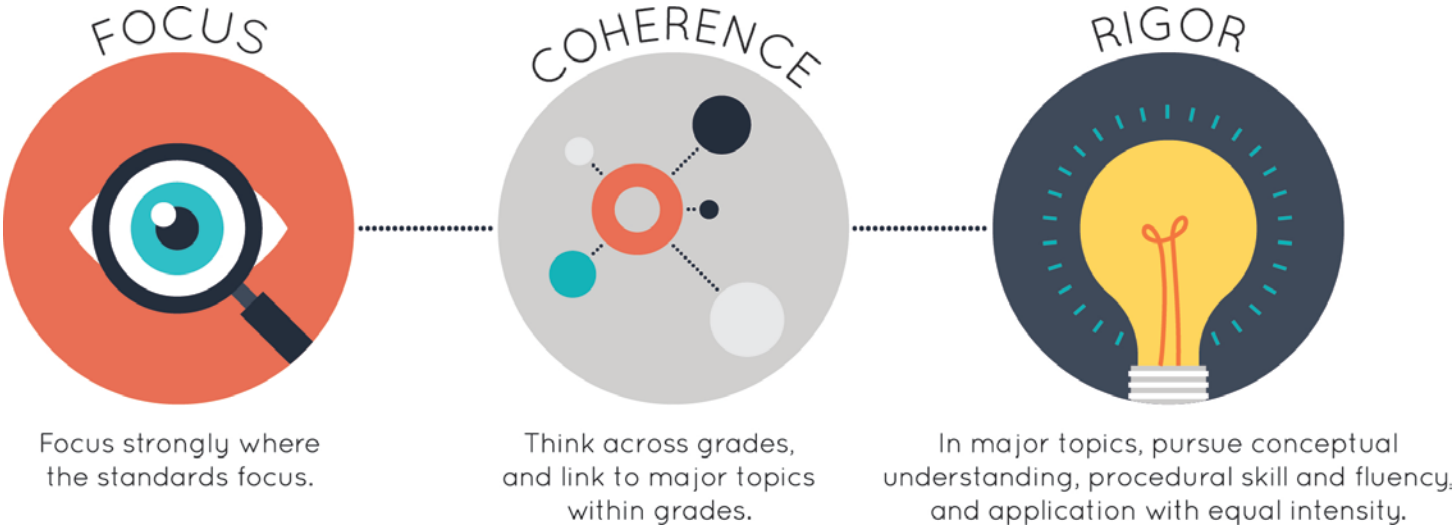
FINAL EVALUATION
Tier 1 ratings receive a "Yes" in Column 1 for Criteria 1 – 7.
Tier 2 ratings receive a "Yes" in Column 1 for all non-negotiable criteria (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the 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-Negotiables	1. Focus on Major Work	**No**	The materials are structured so that more time is devoted to STEM activities than to developing fluency and conceptual understanding of the major work.
	2. Consistent, Coherent Content	**No**	Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
	3. Rigor and Balance	**No**	In the Traditional Textbook Teacher Edition, there were multiple mistakes found in the major content taught.
	4. Focus and Coherence via Practice Standards	**No**	The mathematical practices are often listed but not linked and in some cases are not noted accurately.
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	6. Alignment Criteria for Standards for Mathematical Practice	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7. Indicators of Quality	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
FINAL DECISION FOR THIS MATERIAL: **Tier III, Not representing quality**			

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts** Grade/Course: **8**

Publisher: **TPS Publishing Inc.** Copyright: **2016**

Overall Rating: **Tier III, Not representing quality**

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

STRONG	WEAK
3. Rigor and Balance (Non-Negotiable)	1. Focus on Major Work (Non-Negotiable)
	2. Consistent, Coherent Content (Non-Negotiable)
	4. Focus Coh. via Practice Std (Non-Negotiable)

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.			
Non-Negotiable **1. FOCUS ON MAJOR WORK[27]:** Students and teachers using the materials as designed devote the large majority[28] 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.	**No**	The publisher's pacing guide states that 76% of class time is spent on major work. However, this is not necessarily true in terms of the how the materials are organized and addressed. Direct instruction of the mathematical concepts focuses on approximately 25% of the class periods (i.e., 47 out of 187 classes as outlined in the pacing guide and materials presented) while 75% of the class periods (i.e., 140 out of 187) STEM activities. In most cases, the STEM activities do support the major work, however the time allotted for STEM activities is disproportionate to the actual teaching and developing the skills and conceptual understanding of the major work. For example, Amelia Rose Activity on pages 17-18 of the STEM text are tagged to major content standards 8.F.1 through 8.F.5 in the pacing guide provided by the publisher and allotted 5 hours of class time of the major work. However, there are 4 questions related to these standards on these pages, which does not correlate to 5 hours of class time. Amelia Rose Activity on pages 31-33 are tagged to major content standards 8.NS.1 (Supporting Cluster), 8.EE.4, 8.EE.7b, and 8.EE.8a-c. There are 6 mathematical questions related to these standards on these pages. The pacing guide provided by the publisher allotted 8 hours of class time for major work for these 6 problems. In addition, the Amelia Rose Activity on pages 42-44 are tagged to major standards 8.G.1a-c, 8.G.2, 8.G.3, and 8.G.4 in the pacing guide provided by the publisher and allotted 6 hours of class time for major work. There are 6 questions related to these standards on these pages, which does not constitute 6 hours of class time. Similarly, Amelia Rose Activity on pages 75-76 are tagged in the

[27] For more on the major work of the grade, see Focus by Grade Level.
[28] 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
			pacing guide to standards 8.G.5 through 8.G.8, and are allotted 4 hours of class time for major work. There are 3 questions related to these standards on these pages, which does not correlate to 4 hours of class work on the major work of the grade.
	REQUIRED **1b)** In any one grade/course, aligned 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 aligned 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.[29]	**No**	In the STEM Teacher Edition, Chapters 24 & 25, "Matrices I & II" introduce calculating the product of matrices and interpreting matrices and students are assessed on their understanding of the concepts as part of standard 8.EE.7b. This activity is designed for a maximum of 11 class periods. Matrices multiplication and division are high school standards (HSN.VM.C.7) and should not appear at the 8th grade level.
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.[30]	**No**	Lessons within the traditional textbook focus on one standard at a time with no connections between the major work, supporting work or additional work. STEM activities do make connections between some of the standards but for the most part focus on either major work or supporting work with no connection between the two. For example, in the STEM Teacher Edition, the learning cycle "The Capacity of Water Carrying Structures" is tagged to standards 8.NS.1, 8.NS.2, 8.EE.2, and 8.G.9. In this learning cycle, students fold cardstock to make a cylinder, triangular prism, and rectangular prism and calculate the volume and lateral surface area of each form (8.G.9). There is no mention of rational or irrational numbers at all in the student workbook or teacher edition, so teachers and students must infer the connection. The connection to 8.NS.1 and 8.NS.2 is weak, as is the connection to 8.EE.2. The closest connection to 8.EE.2, which requires students to use square root and cube root symbols to represent solutions to equations in the form of x ^2=p x ^

[29] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[30] Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
			cubic units. In addition, the calculation of lateral area; surface area; and volume of triangular prisms and rectangular prisms is a 7th grade standard (7.G.6).
	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. [31]	**Yes**	Materials include problems and activities that connect standards in two or more clusters or domains. For example, STEM project #10 Say It with Words, Pictures, Tables, and Symbols connects 8.EE.8a-b and 8.F.4 as students investigate patterns to write and graph algebraic expressions.
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.[32] ☒ 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**	The Traditional Textbook focuses mostly on application and procedural fluency with few opportunities for students to develop conceptual understanding. For example, 8.EE.3 specifically calls for conceptual understanding of scientific notation. Conceptual understanding is not addressed in the Traditional Textbook but is addressed in the Student STEM workbook. On page 166, students look for patterns to figure out how scientific notation works. They are asked to critique the reasoning of others in regards to scientific notation, and then asked to write their own rule to explain scientific notation. However, 8.EE.1 specifically calls for conceptual understanding of the properties of integer exponents. In the Traditional Textbook Teacher's Edition, pages 38-39, there are discussions led by the teacher to explain properties of integer exponents, such as why we add the integers when multiplying with the same base.
	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.	**Yes**	The traditional textbook provides many opportunities for students to build procedural skills required by the standards. For example, on pages 14-18 of the Traditional Textbook Teacher's Edition, there are 37 problems for students to build

[31] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[32] Refer also to criterion #4 in the K–8 Publishers' Criteria and #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
	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.		procedural skill with 8.NS.1, showing the decimal expansions of rational numbers and converting decimal expansions into rational numbers. Pages 73-79 of the same textbook provide multiple problems for students to build procedural skill with 8.EE.3, expressing numbers in scientific notation. On pages 89-98 of the same textbook, students have multiple problems to build procedural skill with 8.EE.4, performing operations with numbers written in scientific notation. On pages 17-24 of the Traditional Textbook Student Edition, there are 44 problems that require students to generate equivalent expressions (8.EE.1).
	REQUIRED **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, without losing focus on the major work of each grade/course 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**	The materials provide students with the opportunity to apply the standards to real-world and mathematical problems. For example, 8.EE.3 specifically calls for application of scientific notation. On page 77 of the Traditional Textbook Teacher's Edition, students are given the opportunity to apply 8.EE.3, expressing numbers in scientific notation and comparing these numbers, to real-world problems. In addition, on page 167 of the Student STEM workbook, students again apply 8.EE.3 as they conduct research on the layers of the atmosphere and use scientific notation to write all the thickness measurements.
	REQUIRED **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	The three aspects of rigor are balanced. In the traditional textbook, there are several examples of students building procedural skill absent conceptual understanding or application, such as pages 14-18 of the teacher's edition where there are 37 problems for students to build procedural skill with 8.NS.1. There are other places where procedural skill and application are treated together, such as pages 73-79 of the teacher's edition where students practice writing numbers in scientific notation and apply this skill to real-world problems (8.EE.3).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
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.[33] ☐ Yes ☒ No	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the major work of the grade/course; practices strengthen the focus on major work instead of detracting from it, in both teacher and student materials.	**No**	The materials sometimes address the practice standards in a way that enriches the major work of the grade. For example, in the STEM Student workbook on page 165, students are asked to analyze numbers written in standard form and scientific notation (8.EE.3). They are to look for and express regularity in repeated reasoning to figure out how scientific notation works (MP8). On this same page, students then use what they learn about scientific notation to critique the reasoning of others (MP3). On the next page, students are asked to write their own rule to explain scientific notation (MP3). The Mathematical Practice Standards are sometimes tagged incorrectly. For example, in the Traditional Textbook Teacher's Edition, pages 12-18, practice standards MP1 and MP2 are tagged as students learn about rational and irrational numbers (8.NS.1). Considering the fact that the lesson taught a step-by-step procedure for converting a decimal to a rational number, students are simply following the steps. There are no questions or activities requiring perseverance or reasoning about numbers on these pages. Another example is on pages 81-87 of the Traditional Textbook Teacher's Edition, where students are learning to perform operations with numbers expressed in scientific notation (8.EE.4). MP3 is tagged on these pages, however there are no questions prompting students to justify their thinking, create an argument, or critique the reasoning of others. Pages 17, 18, and 20 of the Traditional Textbook Student Edition are also tagged with MP3; however, there are no questions or prompts requiring students to justify their thinking or critique reasoning of others.

[33] Refer also to criterion #8 in the K–8 Publishers' Criteria and #6 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013)

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY			
Additional Criterion **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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5c) Materials base content progressions on the progressions in the Standards. [34]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.[35]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives. [11]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
Additional Criterion **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	**6a)** Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[36] 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.[37] There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

[34] Refer also to criterion #5 in the K–8 Publishers' Criteria and #3 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[35] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[36] Refer also to criterion #9 in the K–8 Publishers' Criteria and #7 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[37] Refer also to criterion #7 in the K–8 Publishers' Criteria and #5 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
additional content/skills to teach which are not included in the Standards. ☐ Yes ☐ No	development. Alignments to practice standards are accurate.		
	6b) Materials Support the Standards' Emphasis on Mathematical Reasoning: 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. [38]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	6c) Materials explicitly attend to the specialized language of mathematics.[12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
Additional Criterion **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. [39] ☐ Yes ☐ No	**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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	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 students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7c) Support for English Language Learners and other special populations is thoughtful and helps those	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

[38] Refer also to criterion #10 in the K–8 Publishers' Criteria and #8 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[39] Refer also to pages 18-20 in the K – 8 Publishers' Criteria and pages 16-18 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

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.		
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7f) Materials support the uses of technology as called for in the Standards.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.

FINAL EVALUATION
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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 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.

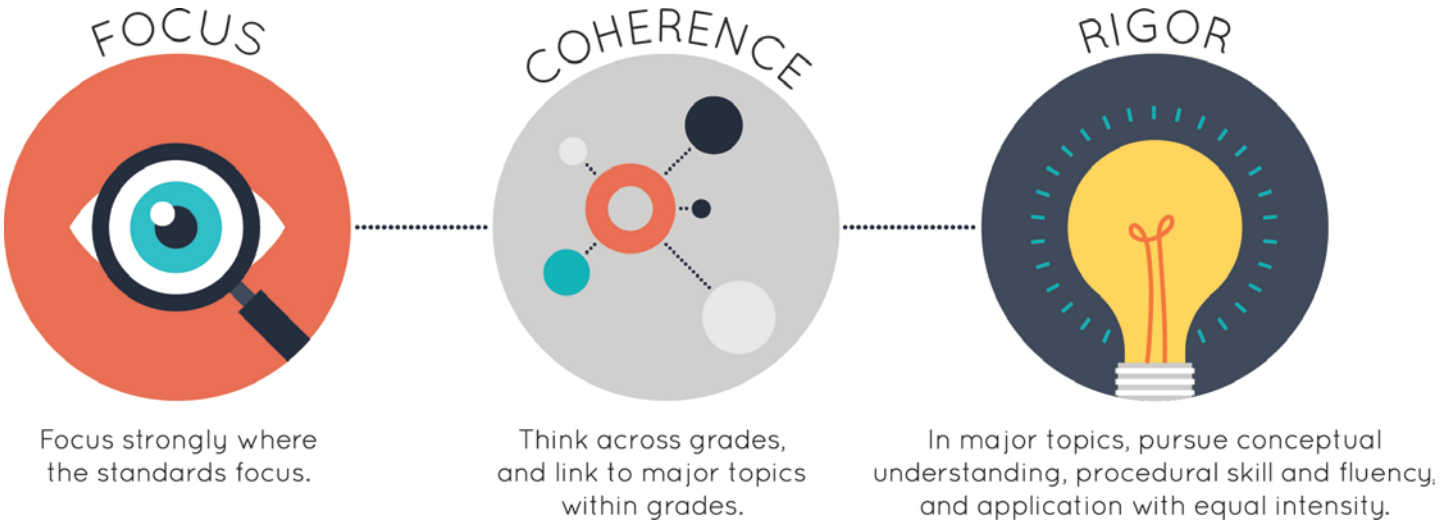
Section	Criteria	Yes/No	Final Justification/Comments
I: Non-Negotiables	1. Focus on Major Work	**No**	The materials are structured so that more time is devoted to STEM activities than to developing fluency and conceptual understanding of the major work.
	2. Consistent, Coherent Content	**No**	Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned.
	3. Rigor and Balance	**Yes**	Materials are balanced with the appropriate aspects of rigor and address the content standards with the rigor required by each standard of the grade level.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES
	4. Focus and Coherence via Practice Standards	**No**	The mathematical practices are often listed, but not linked; and, in some cases inaccurately noted.
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	6. Alignment Criteria for Standards for Mathematical Practice	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
	7. Indicators of Quality	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.
FINAL DECISION FOR THIS MATERIAL: **Tier III, Not representing quality**			

Appendix I.

Publisher Response

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts**

Grade/Course: **6-8**

Publisher: **TPS Publishing Inc.**

Copyright: **2016**

Overall Rating: **Tier III, Not representing 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 Coh. via Practice Std (Non-Negotiable)
	*Strong in Grade 8

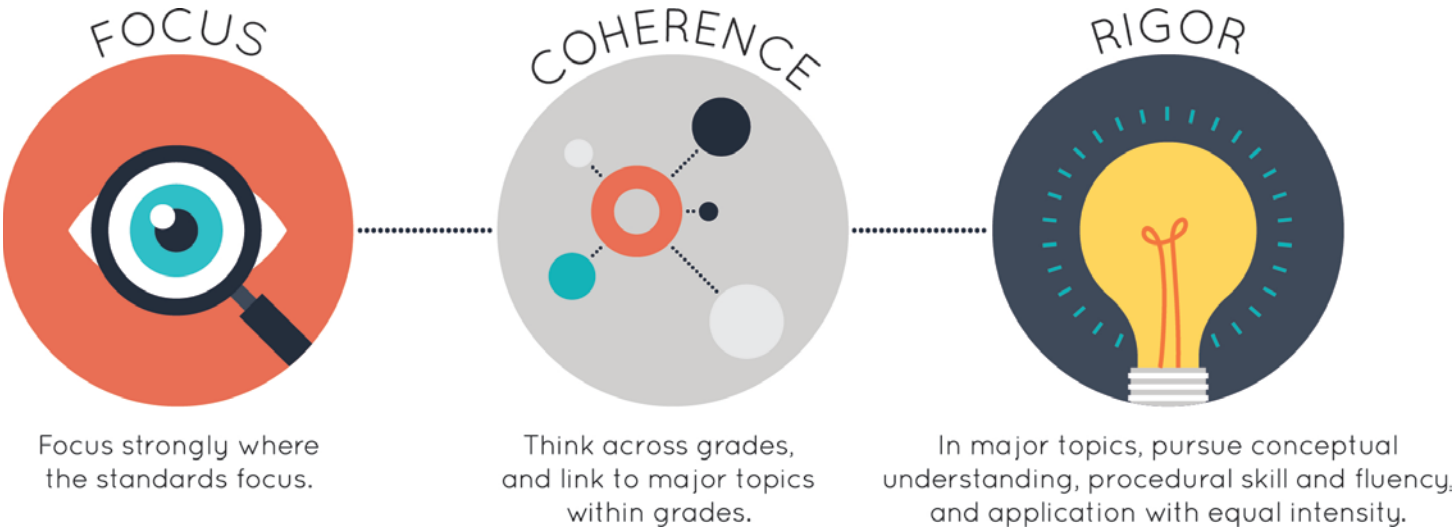
Each set of submitted materials was evaluated for alignment with the standards beginning with a review of the indicators for the non-negotiable criteria. If those criteria were met, a review of the other criteria ensued.

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 (Criteria 1 – 4), but at least one "No" in Column 1 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 6 (Tier 3) Grade 7 (Tier 3) Grade 8 (Tier 3)

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts** Grade/Course: **6**

Publisher: **TPS Publishing Inc.** Copyright: **2016**

Overall Rating: **Tier III, Not representing 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 Coh. via Practice Std (Non-Negotiable)

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.				
Non-Negotiable **1. FOCUS ON MAJOR WORK[1]:** Students and teachers using the materials as designed devote the large majority[2] 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.	**No**	The publisher's pacing guide states that 69% of class time is spent on major work. However, this is not necessarily true in terms of the how the materials are organized and addressed. Direct instruction of the mathematical concepts focuses on approximately 19% of the class periods (44 out of 230 classes as outlined in the pacing guide and materials presented) while 81% of the class periods (186 out of 224) are STEM activities. In most cases, the STEM activities do support the major work, however the time allotted for STEM activities is disproportionate to the actual teaching and developing the skills and conceptual understanding of the major work. For example, the pacing guide assigns 1 hour of time to 6.RP.1 for the Amelia Rose Activity Reader. While the story on the periodic table may take 1 hour to read and discuss, 1 hour of time is not spent on the tagged standard 6.RP.1. On page 7, after reading and discussing the story, students are asked to explain the ratio of elements in the first row to elements in the second row. This question is not 1 hour worth of time on 6.RP.1. The pacing guide also assigns 1 hour each to 6.RP.2 and 6.RP.3a for the next Amelia Rose story. On page 16 of the reader, students are asked to find the unit rate of cost per pan and answer a word problem. Solving these 2 problems would not constitute 2 hours of time spent on 6.RP2 and 6.RP.3a.	TPS has not included the choices made by teachers in the 69%. For example, Didax manipulatives are a major tool but we allow teachers to choose whether they wish to use them or prefer to use the Afterschool (named as they can be used in day class or afterschool, and are another major tool). Depending upon their choice, the % is increased by a different % and we could not work out a good way to show this to you. With regards to Amelia Rose, it is the whole lesson that the math teacher completes. This is a STEAM program. It is not just the section that is math that you refer to and the times are averages from schools using the programs. Should we create a revised pacing plan to show the outcome when we add in only Didax, or part Didax and part libraries or only libraries?
	REQUIRED **1b)** In any one grade/course, aligned 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 aligned materials there are no chapter tests, unit tests, or other	**No**	Many STEM learning cycles and Amelia Rose activities focused above and below 6th grade math content. For example, on page 35, students must measure angles (4.MD.5) to complete the activity. A goal of the Learning Cycle 6, "Walk This Way," is to find prime and composite number (4.OA.4). In Learning Cycle 9, "Measuring with Fractions,"	In State adoptions elsewhere up to 10% has been permitted to allow for below and above grade learners.Do you not have these learners in your classroom and do we need to remove this content? The program is adopted in six states as is

[1] For more on the major work of the grade, see Focus by Grade Level.
[2] 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	PUBLISHER RESPONSE
	such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.[3]		students must add and subtract fractions (5.NF.1 and 5.NF.6). In Learning Cycle 10, "Measures of Geoboards," students focuses on the multiplication of fractions, whole numbers, and mixed numbers (5.NF.3). In Learning Cycle 14, "Tour of Trash," students uses exponential and scientific function (8.EE.1 and 8.EE.4). In Learning Cycle 16, "Stake Your Claim," students add integers (7.NS.1). In Learning Cycle 13 "What's Your Type," the activity has students find probability (7SP.7). In Learning Cycle 24, "Go with the Flow," the activity has students calculate the volume of a cylinder (8.G.9) and area of a circle (7.G.4). In Learning Cycle 8, "Moving On," the problems involve an objective related to scale drawings (7.G.1). Students are accountable for future standards within assessment components of these learning cycles.	
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.[4]	**Yes**	When grade level standards are used, materials connect supporting content to major content in meaningful ways. For example, STEM Learning Cycle 14, "A Tour of Your Trash," connects 6.G.2 and 6.RP.3 where students find the volume of a rectangular prisms and percents. On page 300 and 303 in Teacher Material, exercises connected 6.EE.2, 6.G.1 and 6.G.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. [5]	**No**	The traditional textbook focuses on single topics and does very little to connect two or more domains. Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned. For example, STEM Learning Cycle 2, "Show Me the Numbers," the focus is on data collection and display. Students investigate the relationship between wheel circumference and the distance the wheel travels, and then they display the data. The teacher's edition connects 2 clusters with 6.EE.8 and 6.EE.9 in this	We connect domains in our libraries projects and these are chosen by teachers as well as in the Didax online lesson plans - as there are around two years of curriculum represented by iMaST, afterschool and applied math libraries we cover this in training and help each teacher choose andn personalize requirements and CeMaST professors come on site and do STEM training to carefully transition traditional teachers into STEM and STEAM. The majority of STEM, Arts and Afterschool projects are all across domains and clusters. We have a matrix showing the information which is used in training

[3] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[4] Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[5] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			lesson, but it is not clear how these two standards align with this learning cycle. Another example is STEM Learning Cycle 9, Measuring with Fractions. The teacher's edition connects standards within 2 domains, 6.EE.4 and 6.NS.3, however it is not clear how either of these standards align with this learning cycle.	
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.[6] ☐ 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.	**No**	For the most part, there are some opportunities in the curriculum for students to develop conceptual understanding of some standards. For example in Lesson 5, students model percents using tape diagrams to find the whole when given a part and a percent. The material includes an explanation that percent is the same as a fraction with hundredths. In Lesson 7, division of fractions by fractions is related to what students already know about division of whole numbers. They also fold circles to model ¾ divided by ¼ is 3 because there are 3 lots of ¼ in ¾. However, there are some inconsistencies in the development and understanding of ratios (6.RP.1 and 6.RP.2) where incorrect material is presented.	The STEM projects were field tested for eight years and funded nationally and were found to have excellent conceptual understanding for students to cover math and science content at the same time. Each learning cycle has been carefully built and sometimes, it is difficult, without training by the professor authors to actually see the math concepts and how they are building but once the training occurs it is evident. The process used is DAPIC. Do you need examples from authors as they can do that if required
	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.	**No**	6.NS.2 specifically calls for fluency with dividing multi-digit numbers using the standard algorithm. In Lesson 8 in the Traditional Textbook TE, there are 37 problems in which students divide multi-digit numbers using the standard algorithm. The pacing guide provided by the publisher identifies STEM project 11 as aligned to 6.NS.2, however it is not evident how students would be dividing multi-digit numbers using the standard algorithm in this learning cycle. There are no other opportunities in the curriculum for students to develop fluency with this standard. 6.NS.3 calls for fluency with adding, subtracting, multiplying, and dividing multi-digit decimals using the standard algorithm for each operation. Lesson 9 in the Traditional Textbook TE, there are 6 problems of each operation. STEM	Has the reviewer looked at the assessment generator, interactive homework system, focus tutorial and workbooks as well as Didax lesson plans online and main text plus STEM? Did the reviewer look at the iMaST content. All of these provide for this section.

[6] Refer also to criterion #4 in the K–8 Publishers' Criteria and #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			Lesson 9, Measures with Fractions, identifies 6.NS.3 as being addressed, however, operations with decimals are not evident in this learning cycle. There are no other opportunities for students to build fluency with 6.NS.3 in the curriculum.	
	REQUIRED **3c)** ***Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, without losing focus on the major work of each grade/course 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**	There are many opportunities throughout the curriculum for students to apply their understanding of grade 6 standards. In Lesson 3 in the teacher's edition, students apply 6.RP.3a to solve real-world problems by drawing tables and determining if given ratios are equivalent. In Lesson 4, students create and use tape diagram and double number line models to solve real-world problems (6.RP.3b).	
	REQUIRED **3d)** ***Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	The three aspects of rigor are not always treated together and are not always treated separately. For example, in the STEM learning cycles, students apply standards to real-world and mathematical problems as well as sometimes develop conceptual understanding. In the Traditional Textbook, students develop procedural skill and apply standards to real-world and mathematical problems. For example, procedural skill is sometimes treated alone, such as in the traditional textbook lesson focused on 7.RP.1 where students have multiple problems to practice procedural skill with computing unit rates.	
Non-Negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the major work of the grade/course; practices strengthen the focus on major work instead of detracting from it, in both teacher and student materials.	**No**	The STEM component of the curriculum provides opportunities for students to engage in mathematical practices. For example, in STEM Learning Cycle 1, Need for Speed, students look for and express regularity in repeated reasoning when they analyze patterns in a table to discover the formula for speed and then build cars and find the speed (MP8). However, the mathematical practices	TPS did label pages to help teachers know where math practices are being used. They are covered within STEM projects, textbook but also are very evident in Didax, iMaST, Amelia Rose, and library content. Is the reviewer saying they looked in these and did not find all of them covered as six other State panels recommende us highly in this area for our innovative approach and excellent coverage.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
emphasized in the Standards.[7] ☐ Yes ☒ No			are sometimes noted inaccurately. At the top of each page in the Traditional Textbook TE, the mathematical practices are noted where they are supposed to be present. They are generously noted, however, many times where not present. For example, on page 21 of the teacher's edition, MP1 and MP2 are noted. In this lesson, students are writing ratios and unit rates for given situations. Considering that the lesson taught students to simply divide both terms by the smaller term to get the unit ratio, the problems do not require students to make sense of anything, persevere, or reason about numbers. They are simply following a procedure. On pages 23-28 of the teacher's edition, MP3 is noted. Nowhere on these pages are students asked to justify work, construct an argument or critique the reasoning of others.	Can the reviewer advise what is missing and we can provide a list of page references for it?
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY				
Additional Criterion **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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5c) Materials base content progressions on the progressions in the Standards.[8]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	

[7] Refer also to criterion #8 in the K–8 Publishers' Criteria and #6 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013)
[8] Refer also to criterion #5 in the K–8 Publishers' Criteria and #3 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.[9]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives. [11]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
Additional Criterion **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	**6a)** Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[10] 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.[11] There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Alignments to practice standards are accurate.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	6b) Materials Support the Standards' Emphasis on Mathematical Reasoning: 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. [12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	6c) Materials explicitly attend to the specialized language of mathematics.[12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
Additional Criterion **7. INDICATORS OF QUALITY:** Quality materials should exhibit the	**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,	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	

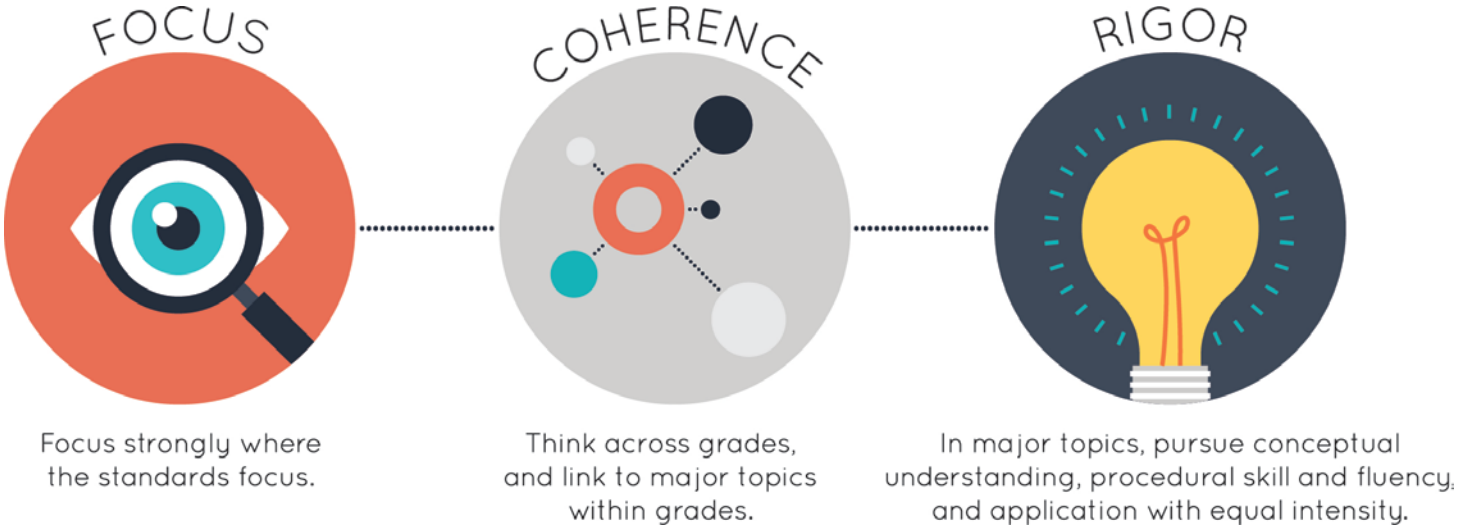
[9] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[10] Refer also to criterion #9 in the K–8 Publishers' Criteria and #7 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[11] Refer also to criterion #7 in the K–8 Publishers' Criteria and #5 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[12] Refer also to criterion #10 in the K–8 Publishers' Criteria and #8 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
indicators outlined here in order to give teachers and students the tools they need to meet the expectations of the Standards. [13] ☐ Yes ☐ No	arguments and explanations, diagrams, mathematical models, etc.			
	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 students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7f) Materials support the uses of technology as called for in the Standards.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	

[13] Refer also to pages 18-20 in the K – 8 Publishers' Criteria and pages 16-18 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
FINAL EVALUATION ***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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria. ***Tier 3 ratings*** receive a "No" in Column 1 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-Negotiables	1. Focus on Major Work	**No**	Materials spent more time on STEM activities than developing fluency and conceptual understanding of the major work.	The reviewer may not be a STEAM experienced person but the whole point of using STEM and STEAM and the DAPIC process is to provide deep conceptual understanding and the field tests showed a 5% increase so it is clearly contained within the materials. This is a STEAM program so STEM activities will be a high % of the materials?
	2. Consistent, Coherent Content	**No**	Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned.	TPS cover this in training and have marked the majority on pages in each edition. Also, appear in Didax and libraries. The labeling may not be immediately evident but we have not been provided with any information about exact missing content?
	3. Rigor and Balance	**No**	In the Traditional Textbook Teacher Edition, there are multiple mistakes in the major content taught.	TPS does not believe there are mistakes, please list them. TPS may teach in a different way than you are accustomed to but that does not mean it is inaccurate
	4. Focus and Coherence via Practice Standards	**No**	The mathematical practices are often listed, but not linked; and, in some cases inaccurately noted.	TPS does not agree and can explain any incident where you think it should not be shown and schools are happily using the program and six States have adopted the program and confirm it as being accurate. It could be that until you do the project you cannot see when the MP is being applied?
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	6. Alignment Criteria for Standards for Mathematical Practice	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7. Indicators of Quality	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
FINAL DECISION FOR THIS MATERIAL: **Tier III, Not representing quality**				

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts** Grade/Course: **7**

Publisher: **TPS Publishing Inc.** Copyright: **2016**

Overall Rating: **Tier III, Not representing 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 Coh. via Practice Std (Non-Negotiable)

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.				
Non-Negotiable **1. FOCUS ON MAJOR WORK[14]:** Students and teachers using the materials as designed devote the large majority[15] 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.	**No**	The publisher's pacing guide states that 62% of class time is spent on major work. However, this is not necessarily true in terms of the how the materials are organized and addressed. Direct instruction of the mathematical concepts focuses on approximately 23% of the class periods (i.e., 51 out of 224 classes as outlined in the pacing guide and materials presented) while 77% of the class periods (i.e., 173 out of 224) are STEM activities. In most cases, the STEM activities do support the major work, however the time allotted for STEM activities is disproportionate to the actual teaching and developing the skills and conceptual understanding of the major work. For example, Amelia Rose Reader Chapter 1, pages 1-12, focuses on energy transformation in plants. The standards listed as aligned with this story are 7.EE.1-7.EE.4a. Following the story, which does not connect to any math standards, students are asked to answer 5 real-world math problems. The pacing guide provided by the publisher allots 3 class hours to this story, however 3 hours would not be spent on the major content standards identified. Amelia Rose Reader Chapter 3, pages 22-31, focuses on energy transformation within the human body. The standards listed as aligned with this story are 7.NS.1a-d, 7.NS.2a-d, and 7.NS.3. On pages 30-31, students solve 2 real-world, multi-step problems using rational numbers. This is the only alignment of these standards to this story. The pacing guide provided by the publisher allots 9 class hours to this story, however, 9 class hours are not spent on the tagged standards. Amelia Rose Reader pages 39-41, students are asked to answer 1 question for each standard 7.RP.1, 7.RP.2a, 7.RP.2b, 7.RP.2c, and	TPS has not included the choices made by teachers in the 62%. For example, Didax manipulatives are a major tool but we allow teachers to choose whether they wish to use them or prefer to use the Afterschool (named as they can be used in day class or afterschool, and are another major tool). Depending upon their choice, the % is increased by a different % and we could not work out a good way to show this to you. With regards to Amelia Rose, it is the whole lesson that the math teacher completes. This is a STEAM program. It is not just the section that is math that you refer to and the times are averages from schools using the programs. Should we create a revised pacing plan to show the outcome when we add in only Didax, or part Didax and part libraries or only libraries? I do not think the reviewer has used TPS materials so not sure how they think they know how long would be taken and where the RP content would be covered and how when they have not been trained? The TPS program comes with ongoing PD at no additional cost ,STEM training, and a 24 hour helpline; it is different, not inaccurate. It is more complex to explain.

[14] For more on the major work of the grade, see Focus by Grade Level.
[15] 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	PUBLISHER RESPONSE
			7.RP.2d. The pacing guide provided by the publisher assigns 2 class hours to these standards using Amelia Rose.	
	REQUIRED **1b)** In any one grade/course, aligned 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 aligned 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.[16]	**No**	On pages 32-33 of the student workbook, students are asked to identify whether given expressions are rational or irrational (8.NS.1). In addition, there are a number of instances in the STEM Projects where the publisher has assigned 7th grade standard numbers to 8th grade standards. For example, Chapter 1 "The Need for Speed", the materials list 7.EE.5 (which does not exist) for 8.EE.2 and allot 5 class periods to this activity. In Chapter 9 "What's Shakin'?," the materials list 7.EE.6 (which does not exist) for 8.EE.3 and allot 13 class periods to this activity. In Chapter 10, "Physical Properties of Materials," the materials list 7.NS.4 and 7.NS.5 (which do not exist) for 8.NS.1 and 8.NS.2, respectively, and allot 7 class periods to this activity. Other activities require students to address content above grade. For example in Learning Cycle 18 "The Beat is On" students are required to identify and compare linear and non-linear functions (8.EE.7 and 8.F.1-5).	In State adoptions elsewhere up to 10% has been permitted to allow for below and above grade learners.Do you not have these learners in your classroom and do we need to remove this content? The program is adopted in six states as is
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.[17]	**No**	Lessons within the traditional textbook focus on one standard at a time with no connections between the major work, supporting work or addition work. STEM activities do make connections between some of the standards but for the most part focus on either major work or supporting work with no connection between the two. For example, STEM Learning Cycle 12, "The Balancing Act," focuses on supporting content 7.SP.1 and 7.SP.2 with no connections to major content. STEM Learning Cycle 11, "Made to Order," is aligned to supporting content 7.SP.5-7.SP.8 with no connections to major content. STEM Learning Cycle 23, "The Art of Balancing," is aligned to major content 7.NS.1b and 7.EE.4b. In addition, there is a STEM Learning Cycle	The materials do connect supporting content to major content by themes and also by labeled standards. For each domain we provide STEM, traditional and arts content and then deeper conceptual understanding and practice via Didax, modeling math and library content. Not every lesson has to comply.

[16] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[17] Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			4, "Learning to Communicate," that is not aligned to any standards.	
	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. [18]	**No**	The traditional textbook focuses on single topics and does very little to connect two or more domains. The STEM activity material does connect multiple domains however these activities are not necessarily aligned to the material time wise being addressed in the traditional textbook. For example Learning Cycle 5 "Orienteering," pages 73-85 in the STEM material connects 7.RP.1 and 7.G.1 where students have to determine a scale for a map and write the scale in the form of a ratio. At this point, students have been taught 7.RP.1 in the traditional material but have not been exposed to 7.G.1.	Ditto G6 comment, STEM content is not always clearly labeled as follows DAPIC process but it is embedded and does go across domains and clusters as do DIDAX lessons and iMaST. Has reviewer looked at those two components?
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.[19] ☐ 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.	**No**	The Traditional Textbook focuses mostly on application and procedural fluency with few opportunities for students to develop conceptual understanding. In the Traditional Textbook Teacher's Edition, the lesson that focuses on 7.RP.2a, pages 17-32, tells students that proportional quantities will form a straight line that passes through the origin, however, there is no discussion of why this is true. For example, 7.NS.2c specifically calls for conceptual understanding of subtraction of rational numbers as the additive inverse. In the Traditional Teacher Textbook, pages 125-141, there are no opportunities for students to develop this conceptual understanding. While the commentary provided to the teacher tells students that subtraction of rational numbers is the same as adding the additive inverse, there are no discussion questions (in the teacher's edition or the student edition) asking students to explain their understanding. STEM Learning Cycle 19, The Right Kind of Fuel, is tagged to 7.NS.2c as well. While this	The components all serve a different purpose and form a toolbox for teachers. There are some 384 components. Just because one section or lesson does not do what you want, another one will and the conceptual understanding is covered mostly in STEM, Didax and Modeling math together with the Afterschool and math applied libraries. Are you saying you cannot see enough conceptual understanding for these topics as I can have a professor call and explain how it works and as is supported by the field tests and adopted status elsewhere

[18] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[19] Refer also to criterion #4 in the K–8 Publishers' Criteria and #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			learning cycle builds understanding of the commutative and associative properties, it does not build the conceptual understanding of subtraction of rational numbers as required by the standard.	
	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.	**No**	There is a lack of exercise where students demonstrate fluency for the grade level standards (7.EE.4). In Lesson 8 in the tradition textbook materials, there are 37 problems over two class periods where students are to develop procedural fluency. In the STEM Learning Cycle 23, "The Art of Balancing," is aligned to 7.EE.4a, however student have minimal opportunity to practice developing fluency. These are the only two opportunities for students to develop fluency with this standard. Other standards where fluency and procedural practices is required also lack significant practice time and problems. For example, 7.NS.3 requires students to be able to solve real world problems using rational numbers. There are only 46 procedural problems in the student textbook (pages 135-145).	Did you review the interactive homework, assessment generator or focus tutorial, the workbooks and or the afterschool math library or personal finance in the applied math library? The test scores from traditional programs are poor for many students. This STEAM program is rising students upward not downward so the practice which is via hands on tactile projects and the amount fo practice in traditional writing we provide, must be sufficient
	REQUIRED **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, without losing focus on the major work of each grade/course 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**	The STEM Learning Cycles provide students ample opportunities to apply mathematical applications to real-world problems. For example, STEM Learning Cycle 16, "How Much Makes One?," pages 237-235, students discover the cross-multiplication algorithm for solving proportions and then apply this algorithm to set up and solve proportions to determine the amount of food, calories, etc. they took in the previous activity.	
	REQUIRED **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	Procedural skill and application are frequently treated together in the traditional textbook. Procedural skill is sometimes treated alone, such as in the traditional textbook lesson focused on 7.RP.1	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			where students have multiple problems to practice procedural skill with computing unit rates.	
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.[20] ☐ Yes ☒ No	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the major work of the grade/course; practices strengthen the focus on major work instead of detracting from it, in both teacher and student materials.	**No**	Even though Mathematical Practices are noted in the Traditional Textbook Teacher's Edition and the STEM Learning Activity materials, there are not opportunities provided for students to apply MP3. The STEM component of the curriculum provides opportunities for students to engage in mathematical practices. For example, in STEM Learning Cycle 1, students look for and express regularity in repeated reasoning when they analyze patterns in a table to discover the formula for speed and then build cars and find the speed (MP8). However, the mathematical practices are sometimes noted inaccurately. For example, in STEM Learning Cycle 6, "Traveling Around," all the mathematical practices 1-8 are tagged at the top of the page. However, within this cycle, students are not looking for and making use of structure (MP7) or looking for and expressing regularity in repeated reasoning (MP8). At the top of each page in the Traditional Textbook Teacher's Edition, the mathematical practices are noted where they are supposed to be present, but at times are not present. For example, on pages 164-180 of the teacher's edition, MP1, MP2, and MP3 are noted. In this lesson, students are not asked to explain their thinking, to construct any arguments, or to critique the reasoning of others (MP3). Students are simply multiplying rational number by following a procedure, in which case they are having to persevere, make sense of anything, or reason about quantities (MP1 and MP2). On pages 142-163 of the teacher's edition, MP3 is noted. However, nowhere on these pages are students asked to justify work, construct an argument or critique the reasoning of others. Also on these pages, MP7 and MP8 are noted. While it would be valuable to have students look for and make use of structure with properties of operations	MP3 is constructing viable arguments and critique of others. Are you saying that in all the traditional references it does not appear and that in all the STEM references it does not appear? In the traditional book introduction we advise 'Paired Activity Working together in pairs can be both enjoyable and fruitful when students can play games that require correct answers for the game to continue. It can give students the chance to check each others' answers and work co-operatively. Once students are familiar with the rules of the activity or the game, they should not require much supervision, if any, and can repeat the game as practice. When solving problems students need to be given the opportunities in pairs to discuss possible answers with their peers. This secures greater involvement of all students in speaking and listening.' p27 paired activity - brainstorming so creating arguments and reviewing each other's thoughts/work? p59, p72 extension, p90, p120,p133, p148, p159, p185, p192, 219/220, p231, p478. There are far more in STEM and Didax

[20] Refer also to criterion #8 in the K–8 Publishers' Criteria and #6 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013)

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			and look for and express regularity in repeated reasoning with the math on these pages, there are no questions that would encourage students to think this way.	
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY				
Additional Criterion **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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5c) Materials base content progressions on the progressions in the Standards. [21]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.[22]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives. [11]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
Additional Criterion **6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE:** Aligned materials make meaningful	**6a)** Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[23] 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	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	

[21] Refer also to criterion #5 in the K–8 Publishers' Criteria and #3 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[22] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[23] Refer also to criterion #9 in the K–8 Publishers' Criteria and #7 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

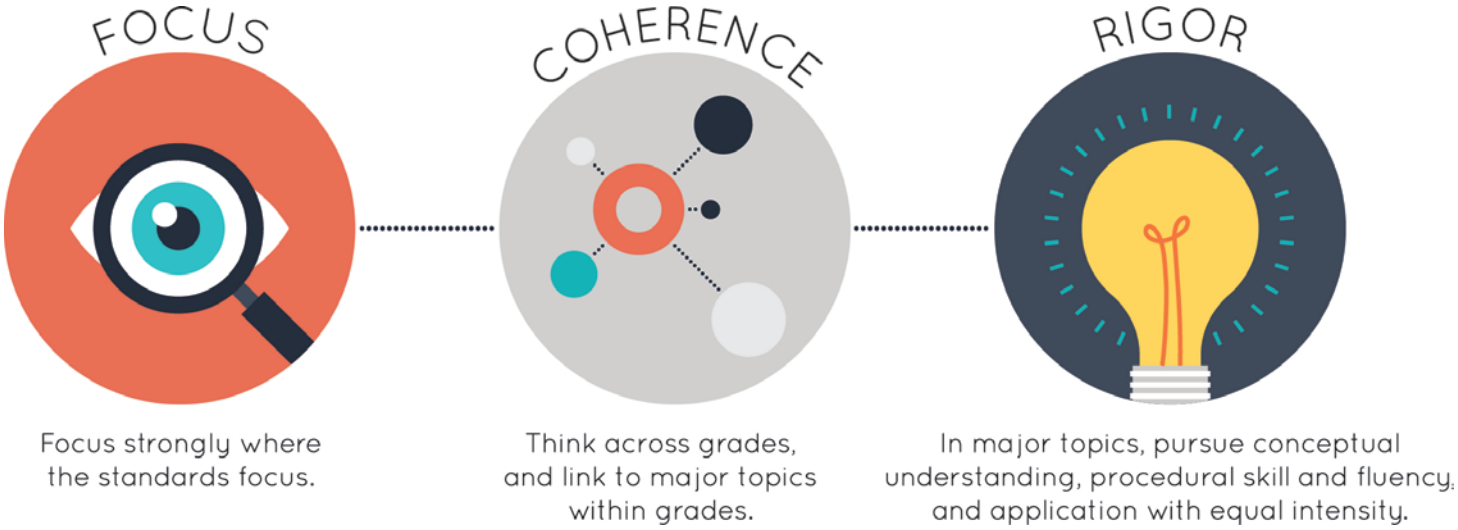
CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
and purposeful connections that enhance the focus and coherence of the Standards rather than detract from the focus and include additional content/skills to teach which are not included in the Standards. ☐ Yes ☐ No	stimulate students to develop the habits of mind described in the practice standard.[24] There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Alignments to practice standards are accurate.			
	6b) Materials Support the Standards' Emphasis on Mathematical Reasoning: 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. [25]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	6c) Materials explicitly attend to the specialized language of mathematics.[12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
Additional Criterion **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. [26] ☐ Yes ☐ No	**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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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 students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	

[24] Refer also to criterion #7 in the K–8 Publishers' Criteria and #5 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[25] Refer also to criterion #10 in the K–8 Publishers' Criteria and #8 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[26] Refer also to pages 18-20 in the K – 8 Publishers' Criteria and pages 16-18 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
	of desired mathematical behaviors being elicited among students.			
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7f) Materials support the uses of technology as called for in the Standards.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
FINAL EVALUATION ***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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria. ***Tier 3 ratings*** receive a "No" in Column 1 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-Negotiables	1. Focus on Major Work	**No**	The materials are structured so that more time is devoted to STEM activities than to developing fluency and conceptual understanding of the major work.	The program is a STEAM program and is meant to have high STEM content and this is why it brings better results than traditional program content as students are exctied and want to learn. The projects, when being completed, have extraordinarily high conceptual value and this is not a traditonal program but a teacher's toolbox. There are 200 additional learning cycles in iMaST that further provide additional rigor, practice and content as well as DIDAX, traditional and modeling math plus Amelia Rose and all of the assessment tools and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
				workbooks. Were they all reviewed?
	2. Consistent, Coherent Content	**No**	Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned.	Most are clearly labeled and the math connections can be seen but some are only discovered when in PD and or when doing the projects. This does not mean they are not present. The ideal would be to have you discuss the content with the professors from CeMaST
	3. Rigor and Balance	**No**	In the Traditional Textbook Teacher Edition, there were multiple mistakes found in the major content taught.	Please advise where as the program is adopted in six States and sometimes teachers think a mistake occurs only to find it is a way of teaching math used in Asia /Pacific or Europe and is not mathematically inaccurate but is different teaching method.
	4. Focus and Coherence via Practice Standards	**No**	The mathematical practices are often listed but not linked and in some cases are not noted accurately.	The MPs coverage is a strength of our program using STEM projects Didax and afterschool library content
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	6. Alignment Criteria for Standards for Mathematical Practice	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7. Indicators of Quality	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
FINAL DECISION FOR THIS MATERIAL: **Tier III, Not representing quality**				

Strong mathematics instruction contains the following elements:



Title: **Creative Math Curriculum with STEM, Literacy and Arts** Grade/Course: **8**

Publisher: **TPS Publishing Inc.** Copyright: **2016**

Overall Rating: **Tier III, Not representing quality**

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

STRONG	WEAK
3. Rigor and Balance (Non-Negotiable)	1. Focus on Major Work (Non-Negotiable)
	2. Consistent, Coherent Content (Non-Negotiable)
	4. Focus Coh. via Practice Std (Non-Negotiable)

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.				
Non-Negotiable **1. FOCUS ON MAJOR WORK[27]:** Students and teachers using the materials as designed devote the large majority[28] 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.	**No**	The publisher's pacing guide states that 76% of class time is spent on major work. However, this is not necessarily true in terms of the how the materials are organized and addressed. Direct instruction of the mathematical concepts focuses on approximately 25% of the class periods (i.e., 47 out of 187 classes as outlined in the pacing guide and materials presented) while 75% of the class periods (i.e., 140 out of 187) STEM activities. In most cases, the STEM activities do support the major work, however the time allotted for STEM activities is disproportionate to the actual teaching and developing the skills and conceptual understanding of the major work. For example, Amelia Rose Activity on pages 17-18 of the STEM text are tagged to major content standards 8.F.1 through 8.F.5 in the pacing guide provided by the publisher and allotted 5 hours of class time of the major work. However, there are 4 questions related to these standards on these pages, which does not correlate to 5 hours of class time. Amelia Rose Activity on pages 31-33 are tagged to major content standards 8.NS.1 (Supporting Cluster), 8.EE.4, 8.EE.7b, and 8.EE.8a-c. There are 6 mathematical questions related to these standards on these pages. The pacing guide provided by the publisher allotted 8 hours of class time for major work for these 6 problems. In addition, the Amelia Rose Activity on pages 42-44 are tagged to major standards 8.G.1a-c, 8.G.2, 8.G.3, and 8.G.4 in the pacing guide provided by the publisher and allotted 6 hours of class time for major work. There are 6 questions related to these standards on these pages, which does not constitute 6 hours of class time. Similarly, Amelia Rose Activity on pages 75-76 are tagged in the	See comments of G6 and G7. Amelia Rose is taught in full by the math teacher. The STEM projects and Didax lessons plus traditional and online will come to far more than 76% as they are not in the calculation as TPS present a toolbox of materials and choices are made by the teacher in PD which is given freely and on an ongoing basis on site and or in webinars or via a 24 hour helpline

[27] For more on the major work of the grade, see Focus by Grade Level.
[28] 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	PUBLISHER RESPONSE
			pacing guide to standards 8.G.5 through 8.G.8, and are allotted 4 hours of class time for major work. There are 3 questions related to these standards on these pages, which does not correlate to 4 hours of class work on the major work of the grade.	
	REQUIRED **1b)** In any one grade/course, aligned 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 aligned 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.[29]	**No**	In the STEM Teacher Edition, Chapters 24 & 25, "Matrices I & II" introduce calculating the product of matrices and interpreting matrices and students are assessed on their understanding of the concepts as part of standard 8.EE.7b. This activity is designed for a maximum of 11 class periods. Matrices multiplication and division are high school standards (HSN.VM.C.7) and should not appear at the 8th grade level.	The program does have some advanced learner content and also some below grade learner content and six States adopted program as the minimal amount was seen as being valuable
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.[30]	**No**	Lessons within the traditional textbook focus on one standard at a time with no connections between the major work, supporting work or additional work. STEM activities do make connections between some of the standards but for the most part focus on either major work or supporting work with no connection between the two. For example, in the STEM Teacher Edition, the learning cycle "The Capacity of Water Carrying Structures" is tagged to standards 8.NS.1, 8.NS.2, 8.EE.2, and 8.G.9. In this learning cycle, students fold cardstock to make a cylinder, triangular prism, and rectangular prism and calculate the volume and lateral surface area of each form (8.G.9). There is no mention of rational or irrational numbers at all in the student workbook or teacher edition, so teachers and students must infer the connection. The connection to 8.NS.1 and 8.NS.2 is weak, as is the connection to 8.EE.2. The closest connection to 8.EE.2, which requires students to use square root and cube root symbols to represent solutions to equations in the form of x ^2=p x ^	You need to speak to the professor authors of the program as they can explain, in detail, how content you believe does not cover a specified standard, does. In addition a reviewer needs to look at all components including didax, iMast and libraries to see the connections. The main connection for the teacher is via the labeling of where the standard is being covered and in STEM/Didax and arts projects in libraries

[29] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[30] Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			cubic units. In addition, the calculation of lateral area; surface area; and volume of triangular prisms and rectangular prisms is a 7th grade standard (7.G.6).	
	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. [31]	**Yes**	Materials include problems and activities that connect standards in two or more clusters or domains. For example, STEM project #10 Say It with Words, Pictures, Tables, and Symbols connects 8.EE.8a-b and 8.F.4 as students investigate patterns to write and graph algebraic expressions.	
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.[32] ☒ 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**	The Traditional Textbook focuses mostly on application and procedural fluency with few opportunities for students to develop conceptual understanding. For example, 8.EE.3 specifically calls for conceptual understanding of scientific notation. Conceptual understanding is not addressed in the Traditional Textbook but is addressed in the Student STEM workbook. On page 166, students look for patterns to figure out how scientific notation works. They are asked to critique the reasoning of others in regards to scientific notation, and then asked to write their own rule to explain scientific notation. However, 8.EE.1 specifically calls for conceptual understanding of the properties of integer exponents. In the Traditional Textbook Teacher's Edition, pages 38-39, there are discussions led by the teacher to explain properties of integer exponents, such as why we add the integers when multiplying with the same base.	
	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.	**Yes**	The traditional textbook provides many opportunities for students to build procedural skills required by the standards. For example, on pages 14-18 of the Traditional Textbook Teacher's Edition, there are 37 problems for students to build	

[31] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[32] Refer also to criterion #4 in the K–8 Publishers' Criteria and #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
	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.		procedural skill with 8.NS.1, showing the decimal expansions of rational numbers and converting decimal expansions into rational numbers. Pages 73-79 of the same textbook provide multiple problems for students to build procedural skill with 8.EE.3, expressing numbers in scientific notation. On pages 89-98 of the same textbook, students have multiple problems to build procedural skill with 8.EE.4, performing operations with numbers written in scientific notation. On pages 17-24 of the Traditional Textbook Student Edition, there are 44 problems that require students to generate equivalent expressions (8.EE.1).	
	REQUIRED **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, without losing focus on the major work of each grade/course 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**	The materials provide students with the opportunity to apply the standards to real-world and mathematical problems. For example, 8.EE.3 specifically calls for application of scientific notation. On page 77 of the Traditional Textbook Teacher's Edition, students are given the opportunity to apply 8.EE.3, expressing numbers in scientific notation and comparing these numbers, to real-world problems. In addition, on page 167 of the Student STEM workbook, students again apply 8.EE.3 as they conduct research on the layers of the atmosphere and use scientific notation to write all the thickness measurements.	
	REQUIRED **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	The three aspects of rigor are balanced. In the traditional textbook, there are several examples of students building procedural skill absent conceptual understanding or application, such as pages 14-18 of the teacher's edition where there are 37 problems for students to build procedural skill with 8.NS.1. There are other places where procedural skill and application are treated together, such as pages 73-79 of the teacher's edition where students practice writing numbers in scientific notation and apply this skill to real-world problems (8.EE.3).	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
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.[33] ☐ Yes ☒ No	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the major work of the grade/course; practices strengthen the focus on major work instead of detracting from it, in both teacher and student materials.	**No**	The materials sometimes address the practice standards in a way that enriches the major work of the grade. For example, in the STEM Student workbook on page 165, students are asked to analyze numbers written in standard form and scientific notation (8.EE.3). They are to look for and express regularity in repeated reasoning to figure out how scientific notation works (MP8). On this same page, students then use what they learn about scientific notation to critique the reasoning of others (MP3). On the next page, students are asked to write their own rule to explain scientific notation (MP3). The Mathematical Practice Standards are sometimes tagged incorrectly. For example, in the Traditional Textbook Teacher's Edition, pages 12-18, practice standards MP1 and MP2 are tagged as students learn about rational and irrational numbers (8.NS.1). Considering the fact that the lesson taught a step-by-step procedure for converting a decimal to a rational number, students are simply following the steps. There are no questions or activities requiring perseverance or reasoning about numbers on these pages. Another example is on pages 81-87 of the Traditional Textbook Teacher's Edition, where students are learning to perform operations with numbers expressed in scientific notation (8.EE.4). MP3 is tagged on these pages, however there are no questions prompting students to justify their thinking, create an argument, or critique the reasoning of others. Pages 17, 18, and 20 of the Traditional Textbook Student Edition are also tagged with MP3; however, there are no questions or prompts requiring students to justify their thinking or critique reasoning of others.	This is a strength for the program according to the six adoption states. The MPs are in the STEM projects, iMaST (another 200 STEM cycles) the after school and math applied libraries and arts projects plus Didax. Were all reviewed? In addition plenty of practice using the interactive homework, assessment generator and focus tutorial and workbooks

[33] Refer also to criterion #8 in the K–8 Publishers' Criteria and #6 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013)

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY				
Additional Criterion **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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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.[10]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5c) Materials base content progressions on the progressions in the Standards. [34]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.[35]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives. [11]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
Additional Criterion **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	**6a)** Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[36] 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.[37] There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	

[34] Refer also to criterion #5 in the K–8 Publishers' Criteria and #3 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[35] Refer also to criterion #6 in the K–8 Publishers' Criteria and #4 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[36] Refer also to criterion #9 in the K–8 Publishers' Criteria and #7 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[37] Refer also to criterion #7 in the K–8 Publishers' Criteria and #5 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
additional content/skills to teach which are not included in the Standards. ☐ Yes ☐ No	development. Alignments to practice standards are accurate.			
	6b) Materials Support the Standards' Emphasis on Mathematical Reasoning: 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. [38]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	6c) Materials explicitly attend to the specialized language of mathematics.[12]	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
Additional Criterion **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. [39] ☐ Yes ☐ No	**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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	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 students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7c) Support for English Language Learners and other special populations is thoughtful and helps those	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	

[38] Refer also to criterion #10 in the K–8 Publishers' Criteria and #8 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[39] Refer also to pages 18-20 in the K – 8 Publishers' Criteria and pages 16-18 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
	students meet the same standards as all other students. The language in which problems are posed is carefully considered.			
	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.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7f) Materials support the uses of technology as called for in the Standards.	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
FINAL EVALUATION ***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 (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria. ***Tier 3 ratings*** receive a "No" in Column 1 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-Negotiables	1. Focus on Major Work	**No**	The materials are structured so that more time is devoted to STEM activities than to developing fluency and conceptual understanding of the major work.	We deliver all content within a STEAM program devoted to full coverage of requirement but in an innovative and exciting way. Field test results show a 5% increase in test scores. More results due in August. The reviewer may not have looked at Didax, for example all of the geometry online? 'Working with Geoboard'? or the Common Core didax G6-8 book? Did the reviewer consider the arts projects such as square root and fraction fringe?
	2. Consistent, Coherent Content	**No**	Some STEM Learning Cycles are tagged as connecting standards within two or more clusters or two or more domains. It is not clear in all of them how the standards tagged are aligned.	Were all components reviewed as is not only STEM, but arts, library content and Didax which all have this contained within them
	3. Rigor and Balance	**Yes**	Materials are balanced with the appropriate aspects of rigor and address the content standards with the	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Yes/No)	JUSTIFICATION/ COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			rigor required by each standard of the grade level.	
	4. Focus and Coherence via Practice Standards	**No**	The mathematical practices are often listed, but not linked; and, in some cases inaccurately noted.	Did reviewer see Didax and library content as well as STEM and also arts projects in modeling math?
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	6. Alignment Criteria for Standards for Mathematical Practice	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
	7. Indicators of Quality	**Not Evaluated**	This section was not evaluated because the non-negotiable criteria were not met.	
FINAL DECISION FOR THIS MATERIAL: **Tier III, Not representing quality**				

Appendix II.

Public Comments

There were no public comments submitted.