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: **Glencoe Algebra 1** Grade: **9**

Publisher: **McGraw-Hill School Education, LLC** Copyright: **2014**

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

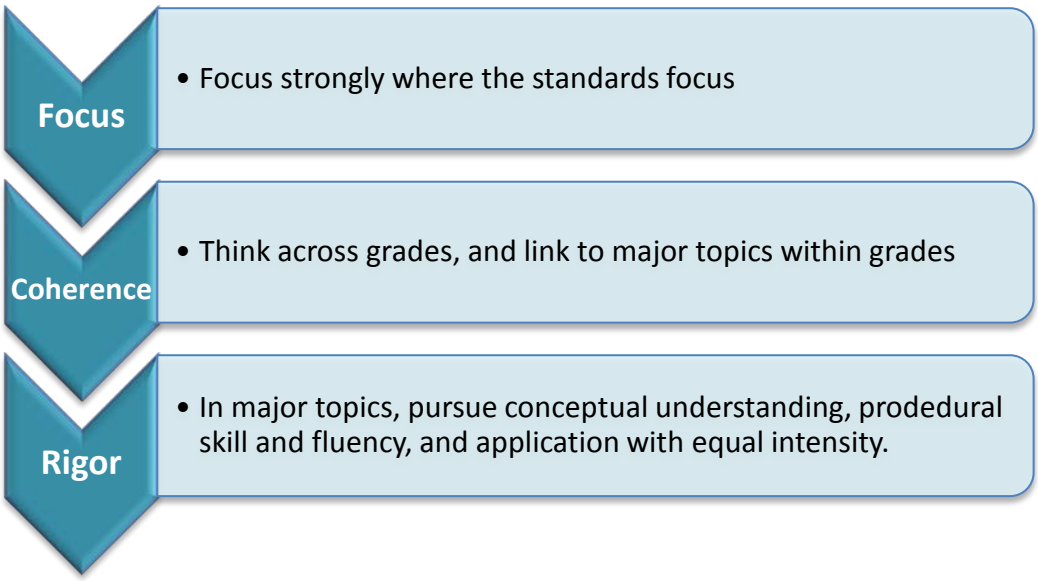
The following two indicators may be impacted:

- 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 "Yes" for these criteria because the materials devote the majority of class time to completing work widely applicable as prerequisites for postsecondary education. Some application of skills surpasses the prerequisites required for ninth grade.	Make sure to review all assessment materials to ensure alignment to new clarifications/limitations and the revised, as well as, the placement of standards by grade/course.
Consistent, Coherent Content (Non-Negotiable)	This program currently is reviewed as "No" for these criteria because some materials included are beyond the scope of Algebra I.	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.

Strong mathematics instruction contains the following elements:



Title: Glencoe Algebra 1 **Grade:** 9

Publisher: McGraw-Hill School Education, LLC **Copyright:** 2014

Overall Rating: Tier III, Not representing quality

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

STRONG	WEAK
Focus on Major Work (Non-Negotiable)	Consistent, Coherent Content (Non-Negotiable)
	Rigor and Balance (Non-Negotiable)
	Practice-Content Connections (Non-Negotiable)

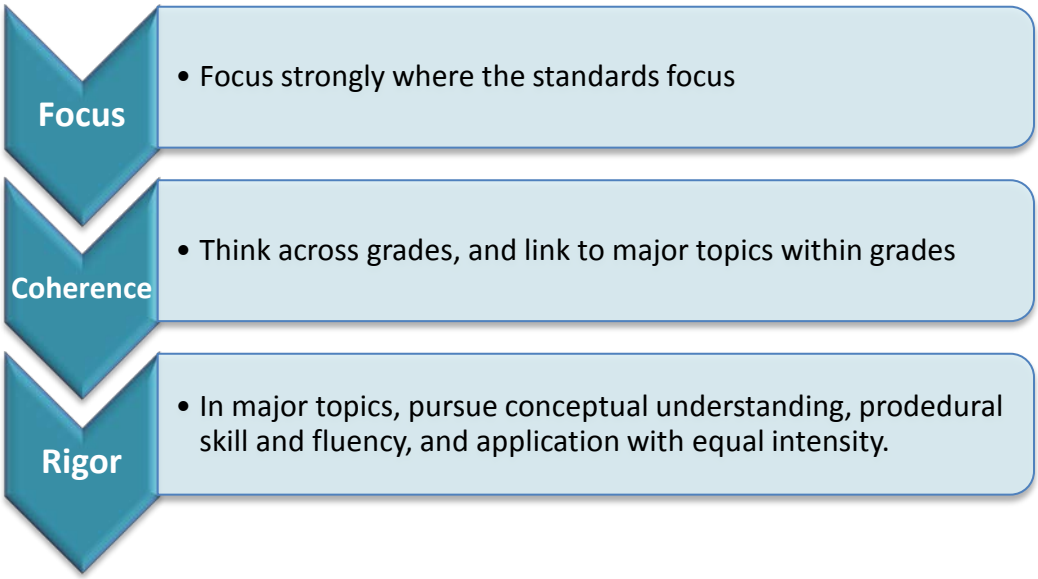
Each set of submitted materials was evaluated for alignment with the standards beginning with a review of the indicators for the non-negotiable criteria. If those criteria were met, a review of the other criteria ensued.

Tier 1 ratings received a "Yes" for all Criteria 1–7.
Tier 2 ratings received a "Yes" for all non-negotiable criteria (Criteria 1–4), but at least one "No" for the remaining criteria.
Tier 3 ratings received a "No" for at least one of the non-negotiable criteria.

Click below for complete grade-level reviews:

Algebra 1 (Tier 3)

Strong mathematics instruction contains the following elements:



Title: Glencoe Algebra 1 **Grade:** 9

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

STRONG	WEAK
Focus on Major Work (Non-Negotiable)	Consistent, Coherent Content (Non-Negotiable)
	Rigor and Balance (Non-Negotiable)
	Practice-Content Connections (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 (Y/N)	JUSTIFICATION/ COMMENTS
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria to move to tier 2.			
Non-Negotiable 1. FOCUS IN HIGH SCHOOL: In any single course, students and teachers using the materials as designed spend the majority of their time developing knowledge and skills that are widely applicable as prerequisites for postsecondary education.[1, 2] For courses that do not include Geometry standards, metrics 1a and 1b must be met. For courses including Geometry standards, all three of the metrics must be met. ☐ Yes ☐ No	**REQUIRED** **1a)** In any single course, students spend at least 50% of their time on **Widely Applicable Prerequisites** for postsecondary education.[3]	**Yes**	Student work corresponds to standards written for high school math; however, students review work from middle school and spend the majority of their time completing work widely applicable as prerequisites for postsecondary education.
	REQUIRED **1b)** There are problems at a level of sophistication appropriate to high school (beyond mere review of middle school topics) that involve the application of knowledge and skills from grades 6-8 including[4]: • Applying ratios and proportional relationships. • Applying percentages and unit conversions, e.g., in the context of complicated measurement problems involving quantities with derived or compound units (such as mg/mL, kg/m^3, acre-feet, etc.). • Applying basic function concepts, e.g., by interpreting the features of a graph in the context of an applied problem. • Applying concepts and skills of geometric measurement e.g., when analyzing a diagram or schematic. • Applying concepts and skills of basic statistics and probability (see 6–8.SP). • Performing rational number arithmetic fluently.	**Yes**	Some application of skills surpasses the prerequisites required for 9th grade (e.g., In Chapters 8 and 9 where the focus is on quadratics, while the topics build upon prior knowledge learned in 8th grade involving linear functions).
	REQUIRED (as applicable) **1c)** For courses that include standards from the Geometry conceptual category, student work in Geometry significantly involves applications/modeling as well as geometry applications that use algebra skills.[5]	**N/A**	Not Applicable – Only standards related to Algebra are in Algebra 1: Geometry standards are designated with a G, and none are assigned to Algebra1

[1] Refer also to criterion #1 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[2] If materials show time in both block and standard 'days,' choose either but remain consistent.
[3] For more information on the Widely Applicable Prerequisites, see Table 1 on Page 8 of the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[4] Information excerpted from Table 1 on Page 8 of the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[5] Since the Geometry category itself contains relatively fewer Widely Applicable Prerequisites, this criterion is important to help foster students' college and career readiness.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Y/N)	JUSTIFICATION/ COMMENTS
SECTION I (continued): NON-NEGOTIABLE CRITERIA			
Non-Negotiable 2. CONSISTENT, COHERENT CONTENT Each course's instructional materials are coherent and consistent with the content in the standards.[6] ☐ Yes ☐ No	**REQUIRED** **2a) *Giving 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.	**No**	Material is included that is beyond the scope of Algebra I (and even the traditional Algebra I/Geometry/Algebra II sequence). For example, Lesson 11-6 is about Adding and Subtracting Rational Expressions. This lesson does not identify a standard, but this lesson is aligned to HSA-APR.D.7(+). Other lessons are also included with no indicated standards. For example, lessons 10-5 and 10-6. These lessons cover the Pythagorean Theorem and Trigonometric Ratios, topics not included in Algebra I.
	REQUIRED **2b) *Relating course-level concepts explicitly to prior knowledge from earlier grades and courses:*** The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**Yes**	Coursework indicates prior knowledge learned in middle school and how it applies to the current coursework.
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.[7] ☐ Yes ☐ No	**REQUIRED** **3a) *Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings by amply featuring high-quality conceptual problems and questions.	**No**	Materials stress procedural skill over conceptual understanding. Although some activities are provided to aid with conceptual understanding, they are often separate from the lessons in the textbook. For example, Lesson 8-3 is about multiplying polynomials. There are two pages before with a lab activity that explain how to use algebra tiles to model polynomial multiplication, but tiles are not used as a strategy in the lesson that follows in the textbook.
	REQUIRED **3b) *Attention to Procedural Skill and Fluency:*** Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In higher grades, sufficient practice with algebraic operations is provided in order for students to meet all of the expectations set in the Standards as a whole.	**No**	Although most materials focus on procedure, they include mnemonics or tricks instead of focusing exclusively on principles of mathematics. For example, in Lesson 8-3, FOIL is introduced as a "shortcut version of the Distributive Property."
	REQUIRED **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging	**No**	Materials focus on routine practice not engaging applications.

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

	applications/modeling. While modeling is a mathematical practice at every grade, it is more prominent and enhanced in high school with more elements of the modeling cycle present.		
	REQUIRED **3d)** ***Balance:*** The three aspects of rigor are not always treated together, and are not always treated separately	**No**	The materials do not reflect a balance of rigor.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Y/N)	JUSTIFICATION/ COMMENTS
SECTION I (continued): NON-NEGOTIABLE CRITERIA			
Non-Negotiable 4. PRACTICE-CONTENT CONNECTIONS: Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice.[8] ☐ Yes ☒ No	**REQUIRED** **4a)** The materials connect the Standards for Mathematical Practice and the Standards for Mathematical Content.	**No**	Mathematical Practices are listed at the beginning of each lesson; however, materials do not connect the standards for mathematical practice and the standards for mathematical content.
	REQUIRED **4b)** The developer provides a description or analysis, aimed at evaluators, which shows how materials meaningfully connect the Standards for Mathematical Practice to the Standards for Mathematical Content within each applicable course.	**No**	Mathematical Practices are listed at the beginning of each lesson; however the developer does not show how the standards for mathematical practice connect to the standards for mathematical content through descriptions. The Mathematical practices are simply listed and do not list which content is related to the mathematical practices or how it is related.

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

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Y/N)	JUSTIFICATION/ COMMENTS
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 within grades (across domains and clusters). Courses are designed based on the content in the standards. ☐ Yes ☐ No	**REQUIRED** **5a)** Materials base courses on the content specified in the standards (Algebra I, Geometry, and Algebra II). [9]		Not evaluated. Non-negotiable criteria were not met.
	REQUIRED **5b)** Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a category, or two or more categories, in cases where these connections are natural and important. [10, 11]		Not evaluated. Non-negotiable criteria were not met.
	5c) Materials include learning objectives that are visibly shaped by CCSSM cluster and domain headings.[10]		Not evaluated. Non-negotiable criteria were not met.
	5d) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives.[10]		Not evaluated. 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	**REQUIRED** **6a)** Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard. [12]		Not evaluated. Non-negotiable criteria were not met.
	REQUIRED **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of other concerning key course-level mathematics that is detailed in the content standards (cf. MP.3). [13]		Not evaluated. Non-negotiable criteria were not met.
	REQUIRED **6c)** 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.[13]		Not evaluated. Non-negotiable criteria were not met.
	6d) Materials explicitly attend to the specialized language of mathematics.[13]		Not evaluated. Non-negotiable criteria were not met.

[9] Refer also to criterion #3 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[10] Refer also to criterion #4 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[11] Refer to the standards for each course found in the Teacher Support Library.
[12] Refer also to criterion #7 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[13] Refer also to criterion #8 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (Y/N)	JUSTIFICATION/ COMMENTS
SECTION II (continued): ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY			
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. ☐ Yes ☐ No	**REQUIRED** **7a)** Materials support the uses of technology as called for in the standards.		Not evaluated. Non-negotiable criteria were not met.
	REQUIRED **7b)** 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. Non-negotiable criteria were not met.
	REQUIRED **7c)** Design of assignments is not haphazard: exercises are given in intentional sequences.		Not evaluated. Non-negotiable criteria were not met.
	REQUIRED **7d)** 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. Non-negotiable criteria were not met.
	REQUIRED **7e)** 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. Non-negotiable criteria were not met.
	REQUIRED **7f)** 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. Non-negotiable criteria were not met.
	7g) There is variety in the pacing and grain size of content coverage. [14]		Not evaluated. Non-negotiable criteria were not met.
	7h) Lessons are thoughtfully structured and support the teacher in leading the class through the learning paths at hand, with active participation by all students in their own learning and in the learning of their classmates.		Not evaluated. Non-negotiable criteria were not met.
	7i) Manipulatives are faithful representations of the mathematical objects they represent and are connected to written methods.		Not evaluated. Non-negotiable criteria were not met.

[14] Refer also to page 16 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

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.

FINAL EVALUATION			
Compile the results for Sections I and II to make a final decision for the material under review.			
Section	**Criteria**	**Y/N**	**Final Justification/Comments**
I: Non-Negotiables	1. Focus on Major Work	**Yes**	Course materials contain applicable content for the subject matter.
	2. Consistent, Coherent Content	**No**	Material is included that is beyond the scope of Algebra I.
	3. Rigor and Balance	**No**	Materials stress procedural skill over conceptual understanding. Although most materials focus on procedure, they include mnemonics or tricks instead of focusing exclusively on principles of mathematics.
	4. Practice-Content Connections	**No**	Mathematical practices are mentioned but do not relate standards for mathematical practices to standards for mathematical content.
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content		Not evaluated. Non-negotiable criteria were not met.
	6. Alignment Criteria for Standards for Mathematical Practice		Not evaluated. Non-negotiable criteria were not met.
	7. Indicators of Quality		Not evaluated. Non-negotiable criteria were not met.
FINAL DECISION FOR THIS MATERIAL: <u>Tier III, Not representing quality</u>			