

Mathematics CCRS Alignment Evaluation and Rating Tool

Criterion #1—Focus: Does the resource focus strongly where the standards focus, including relevant Standards for Mathematical Practice?

<p>Dimension 1.1</p> <p>Major Work of the Level (MWOTL): Most of the resource is focused on the most critical concepts for that level. (Support document: CCR Content Progressions or Major Works of the Level)</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • Lessons and units targeting the major work of the level (MWOTL) provide an especially in-depth treatment of the standards. • Lessons and units targeting supporting work of the level have a visible connection to a MWOTL and are sufficiently brief. • Extensive work is provided with on-level problems and activities that are tied to the MWOTL. • Activities and tasks addressing supporting standards focus on enhancing the MWOTL.
<p>Dimension 1.2</p> <p>Standards for Mathematical Practice: Each unit meaningfully connects mathematical content with the Standards for Mathematical Practice. (Support document: Standards for Mathematical Practice)</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • At least one—but no more than four—of the Standards for Mathematical Practice is targeted in each lesson of the sample reviewed. • The targeted Standards for Mathematical Practice are <i>central</i> to the goals of the lessons. • Standards for Mathematical Practice are identified and handled in a level-appropriate way. • Lesson(s) make meaningful connections between the content and the selected Standards for Mathematical Practice.

Criterion #2—Rigor: Does the resource pursue conceptual understanding, procedural skill and fluency, and application with equal intensity?

<p>Dimension 2.1</p> <p>Conceptual Understanding: The resource <i>regularly</i> develops students' conceptual understanding through tasks, problems, questions, multiple representations, and opportunities for students to <i>write</i> and <i>speak</i> about their understanding.</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • Scaffolding supports students' conceptual understanding of the most critical concepts for the level. • Discussion questions requiring conceptual understanding are provided with the lessons. • Lesson(s) require students to demonstrate, in multiple ways, their understanding of the critical concepts in the lesson.
<p>Dimension 2.2</p> <p>Procedural Skill and Fluency: The resource <i>regularly</i> asks students to perform calculations and use mathematical procedures quickly and accurately.</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • The resource is designed so that students attain the fluencies and procedural skills required by CCR standards in both core calculations and mathematical procedures. • The resource is structured to build students' competencies to perform core calculations and mathematical procedures quickly and accurately. Precision with calculations is emphasized.
<p>Dimension 2.3</p> <p>Application: The resource <i>regularly</i> provides opportunities for students to independently apply mathematical concepts in real-world situations and solve challenging problems.</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • Lessons, and units are designed so that students spend sufficient time working with engaging applications, without losing focus on the MWOTL. • Resource includes lessons and/or units which require students to engage in challenging applications of mathematics in real-world and mathematical contexts.

Criterion #3—Coherence: Does the resource design learning around coherent progressions between levels and within the level?

<p>Dimension 3.1</p> <p>Coherence Across Levels: The resource <i>regularly</i> relates on-level concepts to knowledge from previous levels and to future learning. (Support document: CCR Content Progressions)</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • The content builds on understandings from previous levels. • Where appropriate, the lesson/unit provides opportunities for students to connect knowledge and skills from <u>across</u> clusters, domains, and learning progressions. • Mathematics content from previous levels is clearly identified as “review.” • Connections are made as to how the content of this lesson supports, and is connected to, future learning.
<p>Dimension 3.2</p> <p>Coherence Within a Level: Where appropriate, the resource connects two or more standards within a progression, or two or more progressions within a level. (Support document: CCR Content Progressions)</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • Where appropriate, the lessons and/or units provide opportunities for students to connect knowledge and skills from <u>within</u> clusters, domains, and learning progressions. • The content builds on understandings from previous lessons (noted in the table of contents or in a series of lessons). • Lessons ask students to connect knowledge and skills within or across lessons when it is important and natural to do so.

Criterion #4—Structure, Support and Assessment: Does the resource provide structure and support for standards-aligned instruction and assessment?

<p>Dimension 4.1</p> <p>Structure & Support: The resource is responsive to varied student learning needs.</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • Engages students in productive struggle through relevant, thought provoking questions, problems and tasks that stimulate interest and elicit mathematical thinking. • Provides appropriate level and type of scaffolding, differentiation, intervention and support for a broad range of learners, including students with disabilities and ELs. • <u>Units or longer lessons should:</u> <ul style="list-style-type: none"> • Recommend and facilitate a mix of instructional approaches for a variety of learners such as using multiple representations • Gradually remove supports, requiring students to demonstrate their mathematical understanding independently. • Demonstrate an effective sequence and a progression of learning where the concepts or skills advance and deepen over time.
<p>Dimension 4.2</p> <p>Assessment: The resource <i>regularly</i> provides opportunities to assess whether students are mastering standards-based content and skills.</p>	<p>Evidence:</p> <ul style="list-style-type: none"> • The resource is designed to elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted standards. • Includes aligned and unbiased rubrics, answer keys and scoring guidelines that provide sufficient guidance for interpreting student performance. • <u>Units or longer lessons should:</u> <ul style="list-style-type: none"> • Use varied modes of curriculum-embedded assessments that may include pre-, formative, summative and self-assessment measures

Mathematics CCRS Alignment Evaluation and Rating Tool

Title of Resource: Introductory Algebra An Applied Approach, 7th Edition Source/Publisher: Houghton Mifflin
 ISBN: 978-0-547-06117-7 Date of Publication: 2009 Evaluation Date: March 12, 2018

1. Rate the resource using the dimensions and evidence in the Mathematics CCRS Alignment Evaluation Tool.
2. Give an overall score for the resource and summarize the overall strengths and weaknesses of the resource, including best instructional context for use. (Ex. Resource best used for fluency building, not conceptual understanding)

Individual Dimension Rating Descriptors

Strong Alignment	Little to no revision needed. There is evidence in the resource to indicate that at least 80% of the dimension is met.
Modifications Necessary	There is evidence in the resource to indicate that at least 50% of the dimension is met. There <i>may</i> be potential to use the resource with revisions.
Weak Alignment	There is little to no evidence in the resource to indicate the dimension is met. Consider choosing another resource.

Criterion #1—Focus: Does the resource focus strongly where the standards focus, including relevant Standards for Mathematical Practice?

Dimension	Strong	Modifications Necessary	Weak
Dimension 1.1 Major Work of the Level (MWOTL)	X Not stated, but evident. Would be easy to identify MWOTLs		
Dimension 1.2 Standards for Mathematical Practice		X Not specifically stated, but some are evident in the activities	

Criterion #2—Rigor: Does the resource pursue conceptual understanding, procedural skill and fluency, and application with equal intensity?

Dimension	Strong	Modifications Necessary	Weak
Dimension 2.1 Conceptual Understanding	X Need to add some discussion questions		
Dimension 2.2 Procedural Skill and Fluency	X		
Dimension 2.3 Application	X		

Criterion #3—Coherence: Does the resource design learning around coherent progressions between levels and within the level?

Dimension	Strong	Modifications Necessary	Weak
Dimension 3.1 Coherence <u>Across</u> Levels		X Lessons relate back to past learning, but not strong with future learning	
Dimension 3.2 Coherence <u>Within</u> a Level		X Good coherence within the level. Could use some extension activities	

Criterion #4—Structure, Support and Assessment: Does the resource provide structure and support for standards-aligned instruction and assessment?

Dimension	Strong	Modifications Necessary	Weak
Dimension 4.1 Instructional Supports			X Teacher would need to add supports for lower level learners and add activities for advanced learners
Dimension 4.2 Assessment		X Assessments don't show alignment to specific CCRS standards as the book doesn't claim CCRS alignment. May need to add some summative assessments.	

Overall Rating: Check one Strong Alignment Modifications Necessary Weak Alignment

Summary of key strengths and weakness:

Strengths:

- The book does a good job of introducing new skills and includes most of the MWOTLs from Levels C and D and a good number of MWOTLs from Level E.
- There are plenty of opportunities for students to practice the skills in a variety of ways.
- The author uses the margins to provide reflections on past learning, different ways of thinking about a problem, strategies for solving the problem, and study aids.
- The author uses side notes to guide students through the steps in solving a problem
- There is a companion DVD for the book that has videos explaining each skill.
- The applied problems show how the skill relates to other content areas as well as to careers.
- Each chapter provides a pre- and post-test.
- The end of each chapter contains a summary of key terms and essential rules and procedures

Weaknesses

- The book was not designed to accompany the CCRS, so teachers need to match standards to the lessons.
- There isn't a warm-up activity for each section, so the teacher would need to add some, if desired.
- The lessons don't try to relate to future learning.
- The teacher will need to add supports for lower level students and activities for advanced learners.
- Some of the Standards for Mathematical Practice are not applied in the lessons and none are directly stated as an objective.