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## **Publisher's Response to EdReports Evaluation of *Glencoe Math*, Courses 1-3 ©2015**

McGraw-Hill Education (MHE) appreciates the opportunity to respond to the EdReports evaluation of *Glencoe Math*, Courses 1-3. It is important to note that *Glencoe Math* was designed to meet the needs of middle school educators and students, with a wealth of online resources that appear to be excluded from this evaluation.

In their analysis, the EdReports reviewers identified many of the strengths of Courses 1-3.

- “All students engage in extensive practice with grade-level problems with supporting and additional content that engages students in the major work of the grade.”
- “The materials include learning objectives that are clearly shaped by the CCSSM clusters, and the materials incorporate natural connections between domains, where those connections are natural and important.”
- “The “Power Up” performance tasks at the end of each chapter offer students multi-step abstract questions where they solve problems by using a variety of solution paths.”

As stated by NCTM President Diane Briars, “...the EdReports primary analysis focuses on only a subset of CCSSM standards at each grade, omitting standards in CCSSM Critical Areas, such as probability and statistics in middle school.” In addition to probability and statistics, *Glencoe Math* also provides content in other key areas—such as foundational knowledge of percents in Grade 6—to lay the groundwork for many of the standards that students will be encountering for the first time. While this affected EdReport’s scoring of *Glencoe Math*, this was intentional in order to provide the best materials possible for middle school math educators to meet the needs of all of their students.

As detailed in the following report, MHE’s Academic Design team listed specific evaluation responses that include additional insight, rationale, and examples provided by the evaluation ratings from EdReports. We believe that *Glencoe Math* meets the following indicators and have identified the location of those activities and opportunities that the reviewers may have overlooked.

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### **Focus, Grade 6 (Course 1)**

**EdReports Indicator:** Instructional material spends the majority of class time on the major cluster of each grade.

#### **MHE Response:**

We believe that the reviewers overlooked several key areas when considering the amount of class time spent on major clusters.

Several lessons in Chapter 2 were reported as off-grade-level material. In designing the curriculum of *Glencoe Math* Course 1, MHE subject-matter experts intentionally included four lessons in Chapter 2 to build the foundation for understanding percents so that students can successfully master 6.RP.3.c. While Lessons 6-8 directly address 6.RP.3.c, Lessons 1-4 in Chapter 2 are essential to build conceptual understanding of percents, modeling percents, and percent-fraction-decimal equivalents. Since 6.RP.3.c is the first mention of percents in the CCSSM, the inclusion of these lessons is crucial to master 6.RP.3.c.

### **Coherence, Grade 6 (Course 1)**

**EdReports Indicator:** Materials foster coherence through connections at a single grade.

#### **MHE Response:**

The reviewers indicated that there were no connections to using ratio and rate reasoning (6.RP.3) in Course 1, Chapter 8, which addresses the relationship between dependent and independent variables using graphs and ratios (6.EE.9). We intentionally included several examples of these connections in Course 1, Chapter 8, including Lesson 1, pp. 584-585 (Exercises 12 and 19) and Lesson 4, pp. 604-609 (paragraph following the Key Concept box and Exercise 9).

### **Rigor, Courses 1-3**

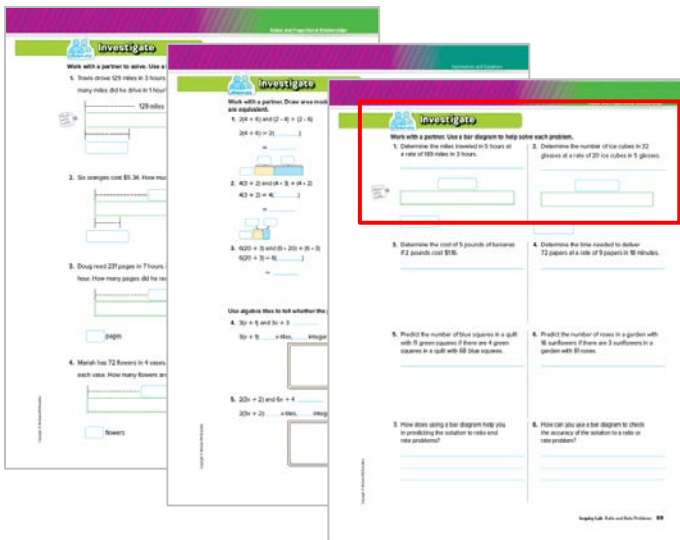
**EdReports Indicator:** Materials develop conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings.

#### **MHE Response:**

The reviewers noted that when materials presented conceptual understanding, it was generally as part of class instruction and rarely incorporated into student practice. We believe the evaluation overlooked the structure of the Inquiry Labs, as well as several online resources including The Geometer's Sketchpad™ activities and problem-based learning activities.

### Inquiry Labs

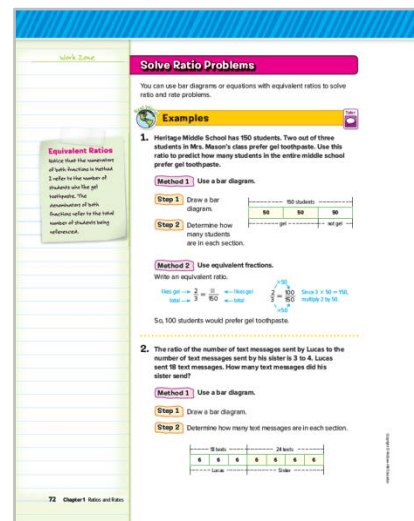
Conceptual understanding is an expected outcome of completing the Inquiry Labs found throughout each course in *Glencoe Math*. Every Inquiry Lab includes a student practice section called Investigate. This section requires students to practice solving problems using the tools that were presented in the lab activities. Some examples of student practice from the Inquiry Labs are shown below.



Students progress from completing partially-drawn bar diagrams in Exercises 1-2 to drawing their own bar diagrams in Exercises 3-8.

### Lessons Following Inquiry Labs

These lessons often include references to the tools used in the Inquiry Lab. When a lesson does not require students to use the tools presented in the lab, the intent is to transition students from conceptual understanding to procedural skill, fluency, and application. This includes having students use strategies that are abbreviated and efficient. This transition is intentional, as outlined in the text from the [Progressions document on Ratios and Proportional Relationships, page 6](#).



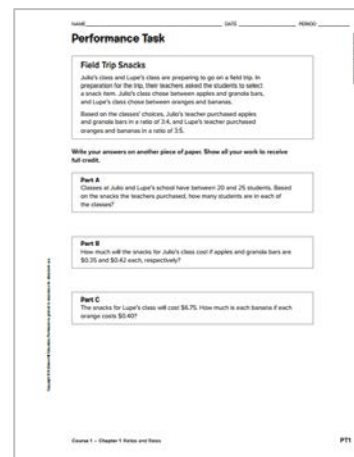
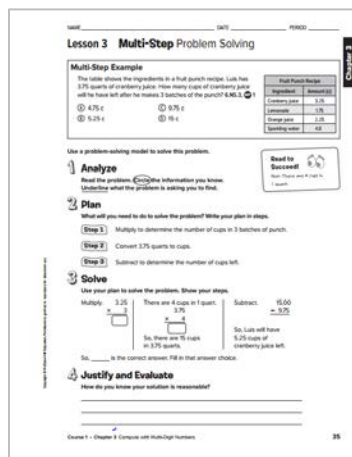
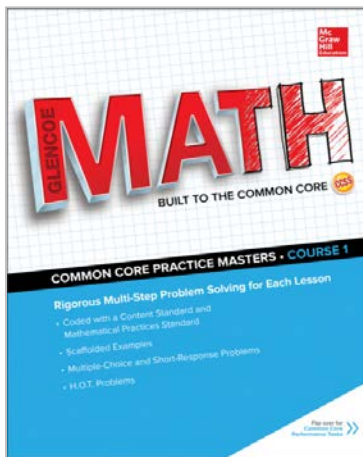
**EdReports Indicator:** Materials are designed so that teachers and students spend sufficient time working with engaging applications of the mathematics, without losing focus on the major work of the grade.

**MHE Response:**

The reviewers indicated that while the materials have multiple opportunities for application, many of the application problems are one-step, routine word problems in which students are directed on the procedure to follow in order to solve the problem. We believe the evaluators overlooked several online resources that provide opportunities for multi-step problem solving in which students must determine the path to the solution. Some of these resources include the multi-step problem-solving practices and additional performance tasks found in the *Common Core Practice Masters* ancillary, and *STEM Projects*.

*Common Core Practice Masters*

For every lesson in *Glencoe Math*, there are four multi-step problems in which students engage in application problems and the path to the solution is not prompted. A performance task for every *Glencoe Math* chapter can be found online, in addition to the one found at the end of every chapter in the interactive Student Edition.



*STEM Projects*

STEM projects provide opportunities for students to use unscripted engineering design processes to solve application problems.



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**EdReports Indicator:** The three aspects of rigor are not always treated together and are not always treated separately. There is a balance of the three aspects of rigor within the grade.

**MHE Response:**

*Glencoe Math* was purposefully designed to support the balance of the three aspects of rigor by attending to them with equal intensity as called for by the [Key Shifts in Mathematics section of the CCSSM](#), thus including the same components of rigor in every chapter.

**Mathematical Practices, Courses 1-3**

**EdReports Indicators:**

- The Standards for Mathematical Practice (SMPs) are identified and used to enrich mathematics content within and throughout each applicable grade.
- Materials carefully attend to the full meaning of each practice standard.
- Materials assist teachers in engaging students in constructing viable arguments and analyzing the arguments of others concerning key grade-level mathematics detailed in the content standards.

**MHE Response:**

We believe the evaluators overlooked online teacher support available to further understand how the SMPs are incorporated into the design of *Glencoe Math*.

- The *Alignment Guide to the K-8 Standards for Mathematical Practice* contains a standard-by-standard analysis of each practice standard, including its meaning, what it looks like when applied in the classroom, and questions teachers could pose in order to foster students' mathematical development.
- Professional development teacher support is found in the *Standards for Mathematical Practices in Action* videos found online. Support includes the routine used for each viewing session. Discussion questions, reflection activities, and extension activities for each practice standard are tailored to grade-level appropriate expectations.
- The Teacher Edition provides a full text of the standards in a correlation document. Descriptions of the kinds of exercises where students use the practice standards are included.

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**EdReports Indicator:** Materials prompt students to construct viable arguments and analyze the arguments of others concerning key grade-level mathematics detailed in the content standards.

**MHE Response:**

In the design of *Glencoe Math*, we carefully attended to the text of SMP 3 by including ample exercises throughout each program where students engage in error analysis and are asked to provide counterexamples. For example, Course 2 asks students to provide counterexamples for given claims that are found in Lesson 5-3 Guided Practice Exercise 3, Independent Practice Exercises 5, 14, and Extra Practice Exercise 20.

**EdReports Indicator:** Materials explicitly attend to the specialized language of mathematics.

**MHE Response:**

We believe the evaluators overlooked the wealth of vocabulary resources available online for *Glencoe Math*.

- Dinah Zike professional development videos, such as *Creating Visual Kinesthetic Vocabulary Flashcards*, *Extending Vocabulary*, and *Creating Vocabulary Flashcards* offer support on how to integrate vocabulary into classroom instruction.
- *Vocabulary Review Games* build vocabulary skills in a fun and interactive gaming environment.
- *Visual Vocabulary Cards* support the development of mathematics vocabulary through visuals, definitions, and learning routines.
- *Student Built Glossaries* are included with every chapter and are designed for students to build vocabulary skills by defining terms in their own words.

**In Closing**

*Glencoe Math* not only focuses on Common Core alignment, but also provides flexible materials for educators to meet the specific needs of their students. We appreciate the opportunity to highlight these strengths in our response and will continue to partner with our customers to create impactful solutions for middle school mathematics instruction.