

# Big Ideas Math: Modeling Real Life ©2019 Grades 3-5 Publisher's Response to EdReports Review

#### **Overview**

Big Ideas Math: Modeling Real Life for grades K-8 is a high-quality, rigorous math program built on the most current and widely accepted educational research. The data-driven program is effective in ensuring positive student outcomes in mathematics. This newly released math series is building a highly successful user base across a broad range of demographics and school settings.

## **Gateway 1: Focus and Coherence**

On this objective portion of the EdReports review, our high scores across the series reflect that *Big Ideas Math: Modeling Real Life* is a standards-aligned program that fully covers the required content, the major work focus, and the progressions for each grade level.

In Grade 4, the percent of lessons devoted to major work and the percent of days devoted to major work are at least 65%. Go <a href="here">here</a> to learn more about program focus and coherence, and to view a spreadsheet that shows how the Grade 4 materials satisfy the 65% requirement using EdReports' specific criteria and evaluation mechanism.

## **Gateway 2: Rigor and Mathematical Practices**

EdReports' review of this gateway is not consistent across grades, revealing that there is a level of subjectivity to evaluating heavily embedded practices and rigor elements. *Big Ideas Math's* single authorship provides a cohesive structure and scaffolding for rigor and mathematical practices across grade levels.

## **Rigor**

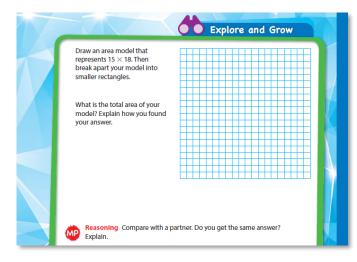
A truly rigorous program offers a balance of the three aspects of rigor: conceptual understanding (discovering why), procedural fluency (learning how), and application (knowing when to apply).

#### **Conceptual Understanding**

In Gateway 2, the program was reviewed against a narrow expectation of how conceptual understanding should be developed in a curriculum. Big Ideas Learning highly values conceptual development, placing it at the forefront of every section with a discovery Explore and Grow.

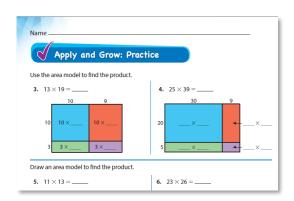
In these Explore and Grows, students explore, question, explain, and persevere as they seek to answer questions that encourage concrete to abstract thought. The Explore and Grows provide rich opportunities for students to develop deep conceptual understanding of topics across a

grade level. Each Explore and Grow was thoughtfully written to get students thinking conceptually, and while on the surface they may appear quite simple, it is here that students often discover foundational concepts that are central to the learning target of the section.

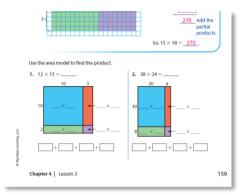


Grade 4 Use Area Models to Multiply Two-Digit Numbers: Students break apart a model to find the total area. They then reason about how breaking apart the model in a different way yields the same total area.

As concepts are solidified in the lesson, every section provides opportunities for students to independently demonstrate conceptual understanding, in the in-class Show and Grow and Apply and Grow: Practice exercises, and in the Homework & Practice exercises. Every in-class and homework set intentionally includes conceptual questions to reinforce the learning.



Grade 4 Use Area Models to Multiply Two-Digit Numbers: The in-class practice set includes conceptual exercises (#3 and #4) to gauge student understanding.



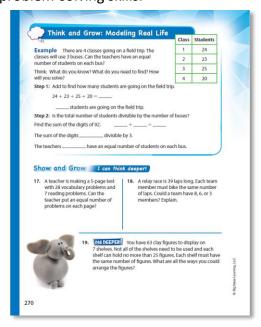
The homework for this same lesson includes similar exercises (#1 and #2) to reinforce students' conceptual understanding.

#### **Procedural Fluency**

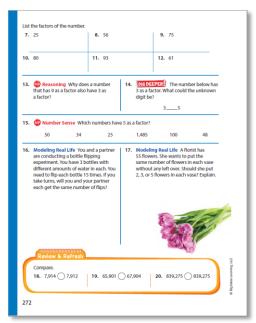
Every Explore and Grow is followed by a lesson where students are presented with precise definitions, examples, and self-assessment opportunities. Here students begin to shift their conceptual understanding into procedural fluency.

#### **Application**

Big Ideas Math exposes students to real-life application examples within every lesson and then follows with additional application problems for in-class problem solving practice. The homework contains a variety of application problems to strengthen and deepen students' problem-solving skills.



In this Grade 4 example, students apply what they have learned to a real-life application. Immediately following are similar application problems for students to answer independently, including a Dig Deeper exercise where students solve to answer a bigger question.



The homework for this same lesson includes similar application exercises (#16 and #17) to reinforce students' problem-solving skills.

Exposing students to problem solving in class allows them to move with confidence to deeper problem solving in the homework. While some proficient or advanced learners may move to independent problem solving easily, emerging learners benefit from examples. In either case, our curriculum provides teachers with a versatile program to use with every student. See more about program rigor here.

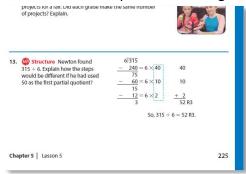
#### **Mathematical Practices**

The EdReports review of *Big Ideas Math* discounts explicit teaching instruction as a proven teaching strategy. EdReports' focus maximizes the effect of the materials on students' learning and minimizes the effect of the teacher; Big Ideas Learning believes the opposite.

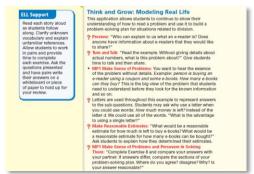
We believe in the teacher's role in instructing, cultivating, and measuring the math practices within daily instruction. The teacher creates a productive and conducive environment in which students are supported in exploration and discussion with their peers. The teaching edition notes opportunities for teachers to encourage expert mathematical thinking in students during

group work or in-class discussions. Fostering that thinking in class encourages these mindsets in students as they work independently.

The authors thoughtfully considered how students can develop mathematical proficiency throughout the program. The student and teaching editions regularly identify and encourage the mathematical practices throughout the curriculum.



In this Grade 4 exercise (#13), students analyze the steps used to find a product. Exercises like this help students develop the ability to look for and make use of structure.



Laurie's Notes regularly encourage teachers to lead discussions with their students to reinforce the math practices. This page from the Grade 4 Teaching Edition encourages discussion of a word problem to help students make sense of problems and persevere in solving them.

To strengthen the connection between the textbook labels and the eight Standards for Mathematical Practice, we have placed a correlation document online at *BigIdeasMath.com*. It can also be found <a href="https://example.com/here">here</a>.

# **Gateway 3: Usability**

Usability is one of the hallmarks of the program that, regretfully, was not even reviewed. Student learning is our highest goal and our student materials are widely known for being clear and understandable. Similarly, the teacher materials are known for their depth and usability. Every component of the versatile teacher package was specifically targeted to help teachers in a practical way as they plan, teach, and assess for student learning. See more about program usability <a href="here">here</a>.

#### Conclusion

Big Ideas Math: Modeling Real Life was developed from the latest research with students and teachers in mind. This rigorous program strives for positive math outcomes to prepare today's students for the jobs of tomorrow. We invite you to go <a href="https://example.com/here-to-stat

Big Ideas Learning acknowledges the perceived value of third-party reviews as one of the criteria educational leaders use in their evaluation process. We appreciate the reviewer comments and consider all feedback in future program development. Please send any EdReports evaluation inquiries regarding *Big Ideas Math* to BIMqueries@BigIdeasMath.com.