

Reveal the Full Potential in Every Student

Reveal Math helps students develop the positive mindset, confidence, and skills to become problem solvers and mathematical thinkers. The program works by incorporating both inquiry-focused and teacher-guided instructional strategies within each lesson. Informed by the latest research on how they learn best, *Reveal Math* ensures students don't just meet the standards—they master them!

Our Powerful Program:



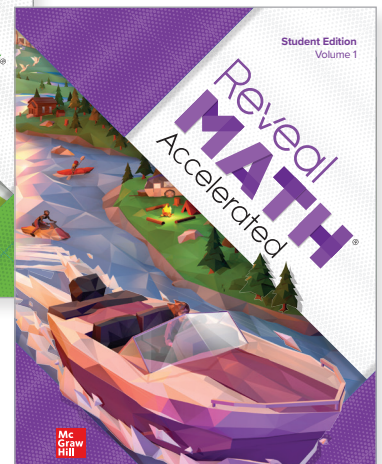
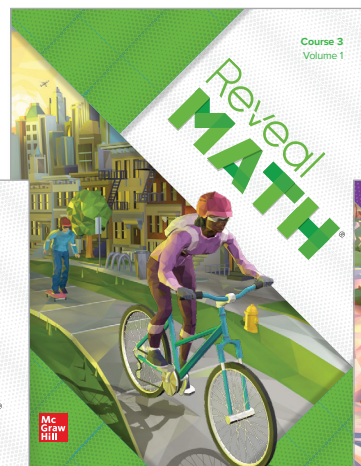
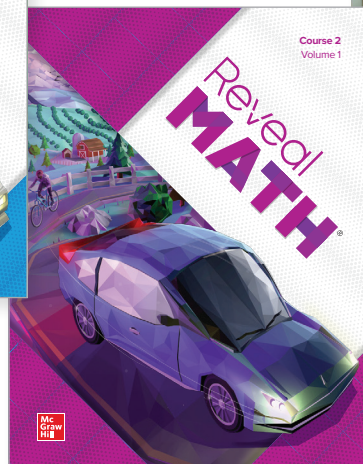
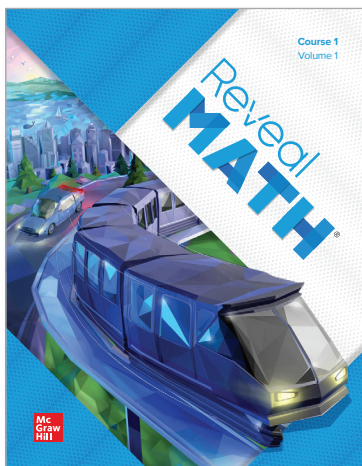
Champions a positive classroom centered on curiosity, connection, and a mathematical mindset.



Offers a flexible lesson design that provides access to rigorous instruction with robust teacher supports and scaffolds.



Tailors instruction for each student through data-driven insights and purposeful, personalized differentiation.



Program Design Influenced by Teachers, Research, and Industry Experts

To design the program, our expert authorship consulted rigorous educational research. Foundational texts include *Principles to Actions* (NCTM), *Mathematical Mindsets* (Jo Boaler), and *Making Sense of Math* (Cathy Seeley) as well as learning models such as Bloom’s Taxonomy and Webb’s Depth of Knowledge Guide. We then called upon our most trusted collaborators, hundreds of teachers across the country, for instructional insights to bring this research to life.

Major Focus Areas:

A Supportive Classroom Culture for All Students

Learner-focused practices develop a classroom designed for equitable learning.

Rich Mathematical Discourse

Instructional options and supports focus on student discourse while emphasizing academic and math vocabulary.

Productive Struggle

Opportunities to explore and engage with challenging mathematical ideas and relationships build deep understanding.

Math Mindset

Building a learning mindset fosters agency and confidence to help all students see and achieve academic success.

Sense-Making

Support for the development of sense-making and critical thinking skills develops proficient problem solvers.

Fluency

Flexible strategies help students to practice math content and achieve automaticity.

Instructional Routines

Structures and expectations create productive classroom interactions with students. Read more about Math Language Routines (MLR) on page 17.

Metacognition

Student reflection promotes math learning.



Champion a Positive Classroom

Engaging students' interest in mathematics at the middle school level helps learners see themselves as problem solvers and doers of mathematics, both of which are critical for achieving academic success.

Build Student Agency

Building agency is integral to helping students take ownership of their learning. With ownership, students are more willing to make mistakes and seek creative solutions to mathematical problems.

Encourage Growth Mindset

Math is... **Mindset**

Why is it important to explain your thinking clearly and concisely?

Mindset Matters tips at the beginning of each unit provide strategies for encouraging a growth mindset and productive approaches to problem solving.

Establish a Community of Learners

The Math is... Unit helps students and teachers focus on math as a set of problem-solving strategies instead of an end result. In this unit, students work together to define a productive and positive classroom environment where all students can:

- Share and exchange ideas.
- Collaborate to solve problems.
- Find success and build confidence in mathematics.
- Take ownership of learning.
- Become creative problem solvers.



Flexible Lesson Design

Balanced Instructional Design

Reveal Math was built to align with the three pillars of a high-quality mathematics curriculum: focus, coherence, and rigor. This intentional instructional design ensures that students develop deep understanding, make connections, build conceptual proficiency, and understand the “why” behind mathematics.

Every lesson is designed with three main learning objectives: content, language, and Math Mindset. To ensure coherence, there is a well-defined learning progression that builds upon previous lesson content and anticipates future lessons. Additionally, each lesson prioritizes one or more aspects of rigor that align with content standards.

FOCUS	COHERENCE	RIGOR
Math Objectives	Previous	Conceptual Understanding
Language Objectives	Now	Procedural Skill & Fluency
Math Mindset Objectives	Next	Application

NEW! Instructional Choice

Reveal Math 6–8 now offers teachers two instructional options: **Activity-Based Exploration** and **Guided Exploration**. They can choose whichever best meets the learning and pedagogical needs of their students and their instructional preferences.

Explore – Session 1 20 min

Launch **Explore** Assess Practice

CHOOSE YOUR OPTION

Activity-Based Exploration

Mixing Paint

ETP **Implement Tasks the Promote Reasoning and Problem Solving**
Students explore different shades of green that can be made from mixing different amounts of blue and yellow paint. The goal is to have students notice that the ratio of blue to yellow paint will dictate the shade of green paint.
Students can work in pairs or small groups to carry out the task that they can complete in either the Digital Student Center or with paper and pencil.

Materials two-color counters (optional)

ETP **Support Productive Struggle**

- What are some ways of getting different shades of green?
- How might the amount of blue and yellow paint mixed affect the shade of green?
- What do you notice about the amount of blue paint and yellow paint for each shade of green?

Math is... **Choosing Tools**

- What tools might help you track the different shades of green?

MPP Encourage students to record and track their different combinations of blue and yellow paint in a tool of their choosing.

ETP **Elicit Evidence of Student Thinking**
Some students may approach this task by completing a table with descending values for the blue paint in one column and ascending values for the yellow paint in a second column. Make sure students see the corresponding amounts of blue and yellow paint as related and defining of a particular shade of green.

Activity Debrief

MLR **Collect and Display**
As students share their findings and their tools, listen for and write on the board any key words they use. Display the words and phrases for student reference. Use the student-generated expressions to help make connections between student language and math vocabulary.

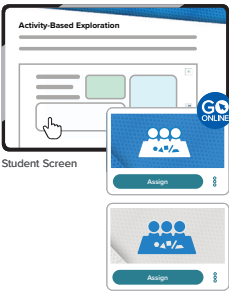
ETP **Facilitate Mathematical Discourse**
As students come up with different shades of green, ask them to look for patterns with the amount of blue paint and yellow paint for each shade of green.

- How can you describe a specific shade of green?
- Why do you think different amounts of blue paint result in different shades of green?
- What would you need to do to make a lot of paint that is a specific shade of green?

Introduce the term *ratio*, *part-to-part*, and *part-to-whole* in the debrief. Show bar diagrams to represent the part-to-part and part-to-whole ratios. Say:

- For this shade of green, the ratio of blue paint to yellow paint is [1] to [2]. This bar diagram shows that relationship. What is the ratio of blue paint to yellow paint for this shade of green? These are both part-to-part ratios. That is, both blue paint and yellow paint are parts of the green paint.
- For this shade of green, the ratio of blue paint to green paint is [1] to [3]. This bar diagram shows that relationship. What is the ratio of blue paint to green paint for this shade of green? These are both part-to-whole ratios. That is, the blue paint is part of the green paint.

18 Unit 3 • Proportional Relationships



Student Screen

Activity-Based printable available for this lesson.

Guided Exploration

Pedro's Paint Mixture

Students explore the concept of ratios through a paint mixing situation. Introduce the problem situation. Have students consider why many hardware stores carry only white paint and create the exact color that a customer wants on the spot.

ETP **Pose Purposeful Questions**

- Why might it be advantageous for a hardware store to carry only white paint and create specific color mixes that customers request?
- How would the hardware store be able to know that a color mixture matches the customer request?

CC **Collaborate and Connect**
For each of the different combinations of pieces of wood, have students work with a partner to determine whether the three pieces of wood can make a triangle. Ask:

- How do the three pieces of wood relate?

MLR **Collect and Display**
As students discuss the questions, listen and write on the board any key words they use. Display the words and phrases for student reference. Use the student-generated expressions to help make connections between student language and math vocabulary. Update the collection with new understandings as the lesson progresses.

ETP **Use and Connect Mathematical Representations**

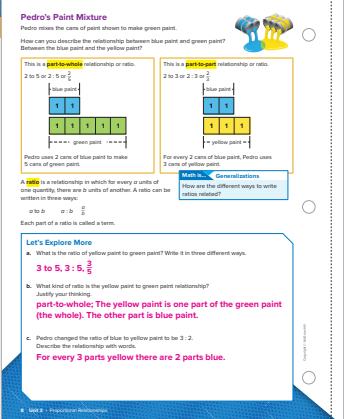
- How does the blue paint relate to the green paint?
- What tools or models do you know that can represent this relationship?
- What do you think the bar diagram might look like? Draw the bar diagram.
- How are the different ways to write ratios related?

Students should notice that the terms are always in the same order.

ETP **Facilitate Meaningful Mathematical Discourse**

- How can we represent a ratio?
- How can we describe a ratio?
- Explain why the blue paint to green paint is a part-to-whole ratio.
- How is the blue to yellow paint relationship different from the blue to green paint relationship?

Let's Explore More
Students work in partners or small groups to complete the questions. Check that students understand the difference between the blue to green and yellow to green ratio. Both are part-to-whole ratios, but use different parts.



Pedro's Paint Mixture

Pedro mixes the cans of paint shown to make green paint.

How can you describe the relationship between blue paint and green paint? Between the blue paint and the yellow paint?

This is a **part-to-part** relationship or ratio. This is a **part-to-whole** relationship or ratio.

2 to 5 or 2 : 5 or $\frac{2}{5}$ 2 to 3 or 2 : 3 or $\frac{2}{3}$

blue paint yellow paint

Pedro uses 2 cans of blue paint to make 5 cans of green paint. For every 2 cans of blue paint, Pedro uses 3 cans of yellow paint.

Math **Generalizations**
How are the different ways to write ratios related?

Let's Explore More

- What is the ratio of yellow paint to green paint? Write it in three different ways. **3 to 5, 3 : 5, $\frac{3}{5}$**
- What kind of ratio is the yellow paint to green paint relationship? **part-to-whole; The yellow paint is one part of the green paint (the whole). The other part is blue paint.**
- Pedro changed the ratio of blue to yellow paint to be 3 : 2. Describe the relationship with words. **For every 3 parts yellow there are 2 parts blue.**

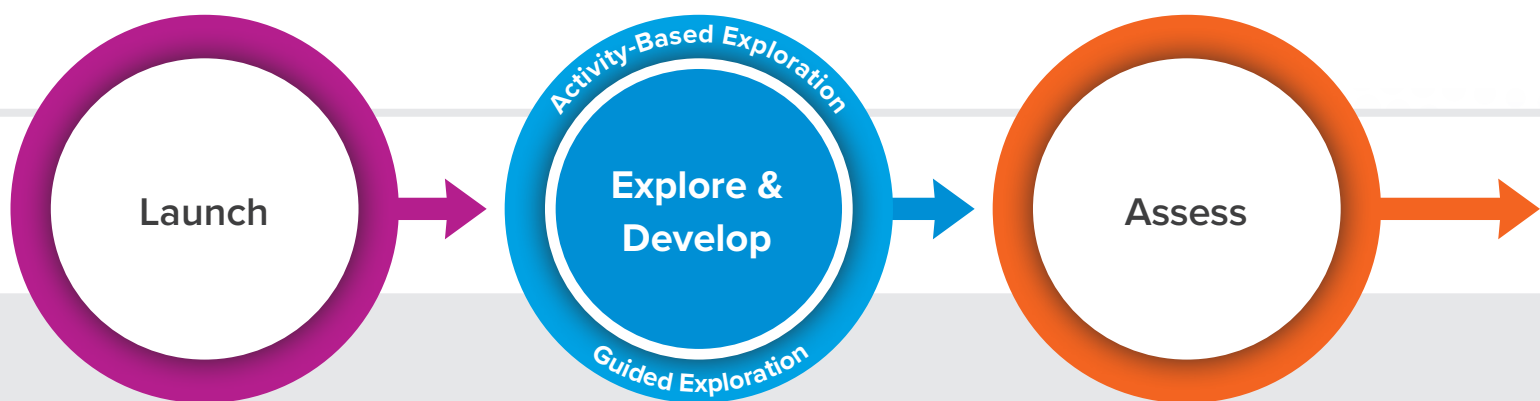
Unit 3 • Proportional Relationships

Exploration pages in the Teacher Edition



Lesson Model

The *Reveal Math* lesson model keeps sense-making and exploration at the heart of learning. Every lesson provides **two instructional options** to develop the math content and tailor the instruction to students' learning needs.



Every lesson begins with **Be Curious**, a sense-making activity:

- Students focus on noticing and wondering, not problem-solving.
- Teachers foster students' thinking through meaningful discussion.

Explore & Develop unpacks the lesson content through either an Activity-Based or Guided Exploration:

- Students explore concepts in small groups during which they can formalize their emergent ideas.
- Teachers facilitate the exploration of concepts through rich discourse.

Each *Reveal Math* lesson includes two opportunities to gauge student learning:

- The **Exit Ticket** is completed after Session 1 and helps to inform instruction for Session 2.
- The **Lesson Quiz** is completed after Session 2 and helps inform differentiation.

Create Consistency in Learning

Instructional routines are embedded within every *Reveal Math* lesson to help students become proficient doers of mathematics.

Build Fluency

Number Routines

Support the development of flexibility with numbers and fluency with operations.

MLR

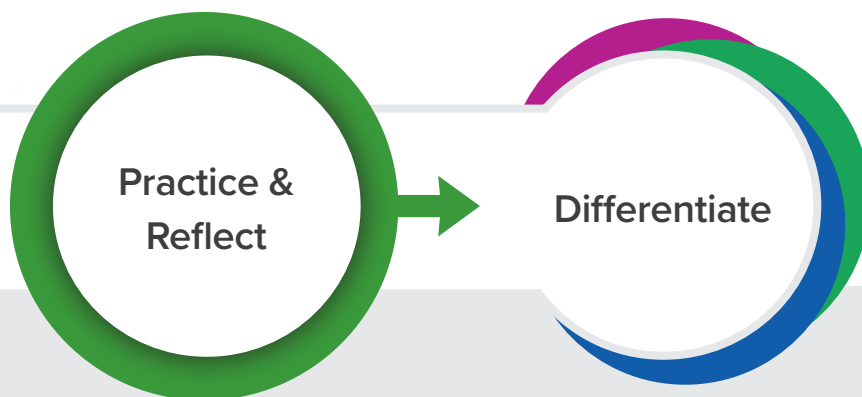
Math Language Routines

Promote mathematical language development as part of instruction.



Sense-Making Routines

Build sense-making as a foundation for problem-solving and mathematical modeling.



The **Practice** pages offer students opportunities to engage with the math and reflect on their learning:

- Students practice lesson concepts by completing the exercises.
- Teachers monitor progress and have students reflect on the lesson learning targets.

Lesson **Differentiation** supports all students in their path to understanding:

- Students work on differentiated tasks to reinforce their understanding, build their proficiency, and/or extend their thinking.

Types of Differentiation

- R Reinforce Understanding**
Resources designed to revisit lesson concepts.
- B Build Proficiency**
Resources to build proficiency with lesson skills.
- E Extend Thinking**
Resources to enrich lesson concepts.



Actionable Data and Personalized Instruction

Actionable data is a click away in the Digital Teacher Center with the Reporting Dashboard. Combined with adaptive and personalized instructional assets, data-informed instruction is easier than ever.

Reporting includes:

Activity Performance Report

- Overall class or student average score
- Overall class or student progress over time
- Performance by activity type (e.g., homework, quiz, exam)
- Average score per activity

Standards Performance Report

Class and individual average score per standard, skill, or objective

MAP Growth Report

Review NWEA MAP Growth RIT scores through two unique reports that demonstrate performance by domain and over time.*

**MAP Growth reports available when you link your NWEA account.*

Administrator Report

Activity, standards, progress, and usage reports

Discover and Track More Data with Gradebook

Within the digital gradebook, teachers can:

- Edit and manage classroom scores.
- Sort grades by group, by student, by grading period, and by performance.
- Customize grading scales.
- Export data.
- View score sheets.