Reveal MATH

Reveal the Full Potential in Every Student

revealmath.com/6-8
Reveal the Power and Possibility of Math!

*Reveal Math™* includes a wealth of print and digital resources that lead to mastery of the standards.
Every classroom is unique, and each student is different in terms of knowledge level and learning style. Teachers need a set of tools as diverse as their students. *Reveal Math* meets this need by providing students the positive mindset, confidence, and skills to achieve mastery of math standards while giving teachers an effective, flexible way to assess understanding and adapt instruction for every learner. Informed by the latest research on how students learn best, *Reveal Math* ensures students don’t just meet the standards—they master them!

**Reveal Curiosity** with mathematical exploration and discovery that deepens conceptual understanding.

**Reveal understanding** with insightful instructional resources to more effectively differentiate and promote a positive student mindset.

**Reveal possibilities** with purposeful technology that creates an active classroom experience.
The Science of Learning Meets the Art of Teaching

The evolving field of educational research drove the approach of Reveal Math. Our team was inspired by esteemed publications such as Principles to Actions (NCTM), Mathematical Mindsets (Jo Boaler), and Making Sense of Math (Cathy Seeley), as well as learning models including Bloom’s Taxonomy and Webb’s Depth of Knowledge Guide. This solid foundation of academic research and direct feedback from hundreds of educators just like you ensures that Reveal Math represents the cutting-edge of best practices in mathematics instruction.

Research-Based Best Practices

Spark Students to Ask “Why?”
Ignite! Activities are designed to spark student curiosity and motivate them to ask questions, solve complex problems, and develop a can-do approach to mathematics.

Build Students’ Confidence in Their Abilities
Learning targets in the form of “I Can” statements appear at the beginning of each lesson to communicate the lesson objective in student-friendly language.

The expert advisor team behind Reveal Math includes thought leaders at the forefront of mathematics education.

Cathy L. Seeley, Ed.D.
Author, Educator, and NCTM President 2004–2006

Raj Shah, Ph.D.
Founder of Math Plus Academy, a STEM enrichment program

Nurture Curiosity with Rich Tasks
Online Explore activities begin with an open-ended question and require deep conceptual thinking from the learner. At the end of the Explore activity, students apply their learning in order to answer the Inquiry Question. The focus is on student exploration and reasoning, not just getting the right answer.
Talk About It!
Describe a situation where the difference between two numbers is greater than either number. Then explain why that happens.

Talk About It!
Why do we take the absolute value of the difference?

Talk About It!
Compare and contrast Method 1 and Method 2.

Talk About It!
Is it reasonable to have a negative answer? Why or why not?

Improve Communication While Deepening Comprehension
Talk About It! prompts build mathematical discourse skills as students learn to clarify their thinking and defend their rationale.

Teach the Value of Perseverance
Problems with multiple solution paths encourage productive struggle and challenge student thinking.

Cheryl R. Tobey, M.Ed.
Mathematics Program Director at Maine Mathematics and Science Alliance (MMSA)

Nevels Nevels, Ph.D.
PK–12 Mathematics Curriculum Coordinator for Hazelwood School District

Dinah Zike, M.Ed.
President of Dinah.com in San Antonio, Texas, and Dinah Zike Academy

Walter Secada, Ph.D.
Professor of Teaching and Learning at the University of Miami
What If Math Class Were the Most Exciting Class of the Day? It Can Be!

*Reveal Math* supports both low-tech and high-tech classrooms. The blended print and digital instructional model captures the best of both modalities and brings them together in a seamless experience that makes math meaningful for your students.

**Web Sketchpad®**

Visualize Math Concepts in Action

Web Sketchpad® activities included with the program enhance understanding by dynamically demonstrating math concepts in action.

Prepare Students for Computer-Based Testing

Technology-enhanced items provide students the valuable practice they need to master computer-based assessments. These items include:

- Drag-and-drop
- Equation editor problems
- Multiselect
- Open response
Utilize Digital Tools for Problem-Solving

Embedded within lessons, this convenient collection of eTools builds a bridge from conceptual understanding to procedural fluency. It includes:

- Number Line Tool
- Coordinate Graphing Tool
- Transformations Tool
- Algebra Tiles Tool

Explore, Model, and Apply Math

The best-in-class Desmos scientific calculator, easily accessible in Reveal Math, allows students to utilize the same resource that appears on many common standardized tests.

Motivate with Truly Enjoyable Technology

Designed with student engagement in mind, the digital resources in Reveal Math include animations, videos, and interactive problems to enhance context and learning.
Drive Learning With Student-Centered Instructional Tools

In *Reveal Math*, the Teacher Edition centers around opportunities to promote mathematical discourse, collaboration, and a positive student mindset.

**Develop Habits of Mind With Standards for Mathematical Practices Tips**
These strategies illustrate ways teachers can integrate the practices in their classroom in a practical and meaningful way.

**Encourage Student Discourse Questions for Mathematical Discourse** provide point-of-use discussion prompts that teachers can use to facilitate classroom discussion.

**Integrate Technology in a Way That Makes Sense**
User-friendly tips in the Teacher Edition suggest when and how to integrate technology purposefully.

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**Example 4: Find the Distance Between Integers**

**Objective**
Students will find the distance between two integers on a number line.

**Teaching the Mathematical Practices**

1. **Reason Abstractly and Quantitatively**
   - Encourage students to make sense of the integers given in the example and the distance between them, whether they use a number line to find the distance or absolute value.

2. **Attend to Precision**
   - Ask students to define “distance” and “absolute value” before they model the numbers on a number line.

**Questions for Mathematical Discourse**

- **Think About It!**
  - What is the absolute value of each integer? The absolute value of 9 is 9. The absolute value of 8 is 8.
  - Why do you need to find the absolute value of the difference? Distance cannot be negative.
  - Give an example of two integers, on opposite sides of zero, where the distance between them is 25? Sample answer: 15 and -15, but the distance between the integers is positive.

- **Interactive Presentation**
  - Students can use Web Sketchpad to find the distance with a number line (Method 1).
  - Students complete the Check exercise to determine if they are ready to move on.

**Online Professional Learning Support: Ready When You Are**
*Reveal Math* features a digital library of self-paced professional learning videos and modules, including:

**Program Implementation Support**
The **Quick Start eLearning Module** explains program basics.

**Plan, Teach, and Assess eLearning Modules** provide deep-dives of the program instructional model and resources.

**Digital Platform Support**
Mindset Matters

“Not Yet” Doesn’t Mean “Never”

Students with a growth mindset understand that just because they haven’t yet found a solution, that does not mean they won’t find one with additional effort and reasoning. It can take time and continued effort to reason through different strategies that can be used to solve a problem.

How Can I Apply It?

Assign students the Formative Assessment Math Probes that are available for each module. Have them complete the probe before starting the module, and then again at the specified lesson within the module, or at the end of the module so that they can see their progress.

Fuel Growth by Encouraging a Positive Mindset

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

Accelerate Learning with Collaboration

Collaborative Practice tips offer suggestions on how students can work together to write their own problems or make sense of existing problems.

Provide In-the-Moment Differentiation

An Assess and Differentiate feature at the end of each lesson provides suggestions to reach every learner.

Address Student Needs Based on Their Depth of Knowledge (DOK)

DOK charts in the Teacher Edition recommend which practice exercises to assign to students based on their needs.

Ongoing Pedagogy Support

- Classroom Videos model lessons from a real classroom.
- Math Misconception Videos address common misconceptions and strategies to help students overcome them.
- Content and Pedagogy Videos provide tips for teaching difficult math concepts.
- Interviews with Experts examine the “why” behind the math and best practices.
- Content Progression Resources show the progression of math concepts from elementary through high school math.
Lesson Model

Launch

WARM UP

The Warm Up covers the prerequisite skills needed for the lesson.

Teachers can also project the "What Vocabulary Will You Learn?" and "Today's Standards" slides to review what topics will be covered in the lesson with their class.

LAUNCH THE LESSON

In Launch the Lesson, teachers utilize a hook to engage students and pique their interest.

Talk About It! prompts initiate student thinking about the lesson content.

Explore and Develop

EXPLORE

Students complete rich tasks in online Explore activities while working in collaborative groups, allowing them to share ideas and approaches with their peers.

Launch the Lesson

Explore

Qualitative Graphs

The St. Croix River is located in Minnesota and Wisconsin. The river is known for its scenic beauty and recreational opportunities. In the spring, ice flows can be a major concern for local communities. Students can use the graph to understand the relationship between temperature and water levels in the river.

Launch the Lesson

Qualitative Graphs

The St. Croix River is located in Minnesota and Wisconsin. The river is known for its scenic beauty and recreational opportunities. In the spring, ice flows can be a major concern for local communities. Students can use the graph to understand the relationship between temperature and water levels in the river.

Teachers can project the digital features, or students can access them on their own devices.
The abundant print and digital resources within *Reveal Math* intersect in a meaningful way to heighten the learning experience. Interactive print and digital tools increase student engagement while simultaneously deepening comprehension. The *Reveal Math* classroom is an active classroom experience that brings math to life!

**Reflect and Practice**

**LEARN**

In the **Learn** portion of the lesson, students’ understanding is formalized through guided instruction. Teachers can use the aligned print and digital content to create the most effective instructional pathway for their students.

**EXAMPLES & CHECK**

Students work through one or more **Examples** tied to the key concepts, followed by a quick **Check** (formative assessment) to measure their understanding. **Examples** and **Checks** can be completed in the print **Interactive Student Edition** or online. When **Checks** are completed online, performance data is instantly captured for the teacher.

**EXIT TICKET**

The **Exit Ticket** provides a quick formative assessment opportunity that encourages students to reflect on their learning. **Write About It!** prompts provide an opportunity for students to integrate writing skills in the math classroom.

**PRACTICE**

Students complete the **Practice** either online or in their print **Interactive Student Edition** to apply what they’ve learned and build procedural fluency. When the **Practice** is completed online, performance data is instantly captured for the teacher.

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**Learn**

The rate of change is a qualitative graph can provide useful information about the relationship between two variables. It can be used to identify qualitative patterns on a number line or in a graph.

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**Examples & Check**

1. **Sketch the shape of the graph**. The graph is a qualitative graph, which represents the rate of change. The shape of the graph can provide useful information about the relationship between two variables.
2. **Determine if the graph is linear or nonlinear**. The graph is nonlinear because it is not a straight line. Nonlinear graphs can be characterized by curves, which represent changes in the relationship between the variables.
3. **Sketch a qualitative graph to represent the situation**. The graph displays the population of bacteria in a petri dish. The population increases over time, first at a decreasing rate, then at a constant rate, and finally at an increasing rate. The graph is a qualitative graph because it does not provide quantitative measurements.
4. **Determine if the graph is increasing or decreasing**. The graph is increasing because the population of bacteria is increasing over time. Qualitative graphs can be used to represent changes in variables, such as population growth, without requiring quantitative measurements.

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**Exit Ticket**

A tennis ball is dropped on the floor. On each successive bounce, it rebounds to a height less than its previous bounce height until it comes to rest on the floor.

1. **Sketch the shape of the graph**. The graph is a qualitative graph, which represents the rate of change. The shape of the graph can provide useful information about the relationship between two variables.
2. **Determine if the graph is linear or nonlinear**. The graph is linear because it is a straight line. Linear graphs can be characterized by straight lines, which represent changes in the relationship between the variables.
3. **Sketch a qualitative graph to represent the situation**. The graph displays the distance Wesley was from home as he ran in preparation for his cross-country meet. The graph is a qualitative graph because it does not provide quantitative measurements.
4. **Determine if the graph is increasing or decreasing**. The graph is decreasing because the distance from home decreases as Wesley runs. Qualitative graphs can be used to represent changes in variables, such as distance, without requiring quantitative measurements.

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**Practice**

The graph displays the population of bacteria in a petri dish. Describe the change.

1. **Sketch the shape of the graph**. The graph is a qualitative graph, which represents the rate of change. The shape of the graph can provide useful information about the relationship between two variables.
2. **Determine if the graph is linear or nonlinear**. The graph is nonlinear because it is not a straight line. Nonlinear graphs can be characterized by curves, which represent changes in the relationship between the variables.
3. **Sketch a qualitative graph to represent the situation**. The graph displays the water level in a bathtub. The graph is a qualitative graph because it does not provide quantitative measurements.
4. **Determine if the graph is increasing or decreasing**. The graph is increasing because the water level increases over time. Qualitative graphs can be used to represent changes in variables, such as water level, without requiring quantitative measurements.
Support Every Student

*Reveal Math* empowers teachers with the tools they need to provide in-the-moment differentiation and deliver insightful instruction that reaches every learner.

**Reveal the Power of Personalized Learning**

*ALEKS*® is an online math solution for Grades 6–12 that uses adaptive technology to identify and provide instruction on the topics each student is most ready to learn. Through a continuous cycle of assessment, learning, and reinforcement, *ALEKS* develops a personalized learning path for each student to ensure measurable success.

**Benefits of Using ALEKS:**

- Provide standards-based instruction
- Focus on appropriate topics to prevent boredom or frustration
- Offer bilingual courses in English and Spanish
- Easily differentiate with remediation, on-level, and enrichment opportunities
- Pie reports allow you to see which students know the concepts in each module’s topic and adjust instruction as appropriate
- Access dynamic data at the student, class, school, and district level to inform classroom instruction
Make an Impact with Embedded Reteach Support

The digital Take Another Look mini-lessons in Arrive Math™ supplement core instruction with targeted skill support and extra practice. About 100 of these digital, student-driven lessons are included in each Reveal Math course.

To receive access to all 1,160 Take Another Look lessons, plus hands-on lessons and games, ask your sales representative about purchasing Arrive Math Booster, a K–8 supplemental intervention program.

Each 15-minute student-driven, digital lesson contains three parts:

**Part 1: Model Concept**
- Learn and Apply: Supported you fill in a corn and spin the spinner drawn.
- Assess: 21 students and gain the spinner drawn

**Part 2: Interactive Practice**
- Use the spinner and the correct answer.
- Use the spinner and the correct answer.

**Part 3: Data Check**
- Use the spinner and the correct answer.
- Use the spinner and the correct answer.

Build Language Skills in the Math Classroom

The Language Development Handbooks empower teachers to meet the language needs of all learners.

The Language Development Handbook Student Edition includes:
- Word Cards.
- Vocabulary Squares.
- Three-Column Charts (with English/Spanish cognates).
- Definition Maps.
- Concept Webs.
- Dinah Zike’s Visual Kinesthetic Vocabulary Cards.

The Language Development Handbook Teacher Edition includes:
- English Learner Instructional Strategies.
- English Language Development Leveled Activities.
- Multicultural Teacher Tips.

Resources for Spanish Speakers

- Spanish Interactive Student Editions for Course 1, Course 2, and Course 3
- Language Development Handbook for Course 1, Course 2, and Course 3 (Teacher and Student Editions)
- Spanish Personal Tutors
- Multilingual eGlossary
- ALEKS Bilingual Courses in Spanish
Assessment

With *Reveal Math*, students apply their deep, authentic learning to a variety of assessments in order to demonstrate that they can explain both the *what* and the *why* of mathematics—not just the *how*.

Teach Students that Mistakes are an Opportunity for Growth

Each module features a Cheryl Tobey Formative Assessment Math Probe—exclusive to McGraw-Hill Education!

Students complete an activity that is designed to target common misconceptions about a particular mathematical concept. Teacher resources include support for diagnosing and correcting these misconceptions.

Ensure Topic Mastery

*LearnSmart*, included with *Reveal Math*, provides students with access to an online, interactive study tool.

*LearnSmart* assesses a student’s proficiency and knowledge within a specific course, tracks which topics have been mastered, and identifies areas that need more study.
Assessment Options

Diagnostic Assessment
- Diagnostic and Placement Test, with Scoring Guide
- Module Pretests

Formative Assessment
- Cheryl Tobey Formative Assessment Math Probes
- Checks
- Exit Tickets
- Put It All Together

Summative Assessment
- Leveled Module Tests
- Module Review
- Module Vocabulary Tests
- Benchmark Tests
- End of Course Test
- Performance Tasks
- LearnSmart

PLUS—Build your own assessments with access to question banks featuring technology-enhanced items.

Drive Instruction with Actionable Data

By drawing on performance data from student assessments and activities, the Reveal Math reports and recommendations provide teachers and administrators with the information they need to monitor and adjust instruction on a daily basis.

Activity 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 Report
Class and individual average score per standard, skill, or objective.

Recommendations Report
Suggested resources can be assigned to a single student or a group of students based on performance.

Administrator Report
Activity, standards, progress, and usage reports.
The K–12 Solution for Today’s Mathematics Classroom

*Reveal Math* is a coherent, vertically aligned K–12 core math solution that empowers educators to uncover the mathematician in every student through powerful explorations, rich mathematical discourse, and timely individualized learning opportunities.

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Learn more about *Reveal Math*

Visit [revealmath.com/6-8](http://revealmath.com/6-8) to sample online and access a trial of the digital resources, or contact your sales representative at [mheducation.com/contact](http://mheducation.com/contact) to request a presentation.