

Program Overview Grades 6–8



# Reveal the Full Potential in Every Student

revealmath.com/6-8

# Reveal the Power and Possibility of Math!

*Reveal Math*<sup>®</sup> 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

I Can... use different methods, including algebra tiles, number lines,

or the additive inverse, to subtract integers

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.



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.

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

Reveal Math teaches students how to think not what to think!



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.



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## 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

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### **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.



## **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**

The **Technical Support Resource Library** provides step-by-step instructions for the digital tools.

#### 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.

3 REFLECT AND PRACTICE	🤗 😔   8.EE.C.7	
	1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION	
<section-header><section-header><list-item><list-item><list-item><section-header><section-header><section-header></section-header></section-header></section-header></list-item></list-item></list-item></section-header></section-header>	Teaching the Mathematical Practices Took for and Make Use of Structure In Exercise 11, students will explain how the Distributive Property can be used to eliminate the fractions in the equation. Encourage students to use the similar structure in the fractions to eliminate them. 3 Construct Viable Arguments and Critique the Reasoning of Others In Exercise 12, students will find the mistake in the problem and correct it. Encourage students to determine the error by analyzing the worked-out solution and explain how they could fix it. In Exercise 13, students will determine if a statement is true or false. Encourage students to support their answer with an explanation that includes details from the equation. Collaborative Practice Have students work in pairs to complete the following exercises.	Accelerate Learning with Collaboration     Collaboration Direction offer
common doministrative $N_0$ under an end of the second of the second se	Interview a student. Use with Exercises 11–12 Have pairs of students interview each other as they complete these problems. Students take turns being the interviewer and interviewee for each problem. Interview questions should include asking the interviewee to think aloud through their solution process. An example of a good interview question for Exercise 11 might be, "What is the Distributive Property?"	suggestions on how students can wor together to write their own problems of make sense of existing problems.
equation by first adding or substanting the constants to both safes of the equation.	ASSESS AND DIFFERENTIATE  Use the data from the Checks to determine whether to provide resources for extension, remediation, or intervention.  IF students score 90% or above on the Checks, THEN assign:  Practice, Exercises 7, 9, 11–14  Extension: Solve Equations with Variables on Each Side by Graphing	<ul> <li>Provide In-the-Moment Differentiatio An Assess and Differentiate feature at the end of each lesson provides suggestions to reach every learner.</li> </ul>
	C ALEKS' Equations with Variables on Both Sides      IF students score 66–89% on the Checks,     THEN assign:         Practice, Exercises 1–6, 12, 13         Extension: Solve Equations with Variables on Each Side by Graphing         Remediation: Review Resources         Personal Tutor         Extra Examples 1–3         C ALEKS' Equations with Variables on Both Sides          IF students score 65% or below on the Checks,         ALE	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 need
136 Module 3 - Solve Equations with Variables on Each Side	THEN assign: • Remediation: Review Resources • Arrive MATH Take Another Look • C ALEKS' Equations with Variables on Both Sides	

#### **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.



# *Reveal Math* Meets You Where You Are and Goes Where You're Growing

## **Lesson Model**



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!

### EARN

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.

# **Reflect and Practice**

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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.

#### **Exit Ticket**



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.



#### Practice





Learn



#### **Examples & Check**



# 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.



ALEKS®

## **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**<sup>™</sup> 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



Part 2: Interactive Practice



Part 3: Data Check

# 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



# **Practice and Assessment**

With *Reveal Math*, students apply their learning in a variety of practice options and assessments 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!

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.

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Collect and Assess Student Work	C. Yes; D. Yes	equation be used to repres	ent the problem?
A Tra         used the order of the numbers and the position of a C. No           C. No         the vehical discription.           E. Yrs         interprets the phenes.           D. No         chooses correctly between equations such as in the recognitive of a class.	ry words to incorrectly translate dd 6°. ns A and C, but has difficulty	A. 6s = c Yes No	
► Tea Action     Tea Action		B. C + 6 = S Yes No C. S = 6C Yes No	
Madda 7 - Balainankya Bakawa Tan Kundon		D. $c = \frac{1}{6}s$ Yes No	
		Cheryl Tobey Math Probe - Equal	ions McGrav-Hil Educ



# **Provide Students Rich Practice Opportunities**

Every lesson includes a variety of practice sets that provide students varied question type formats, immediate feedback, support, and multiple question attempts. Extra practice sets are also available to be assigned at the teacher's discretion. When assigned digitally, student work is auto-scored to reduce the time invested in manual grading.

## **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
- LearnSmart<sup>®</sup>

# **Ensure Topic Mastery**

*LearnSmart*<sup>®</sup>, 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 prior to mid-year or end-of-course assessments.



Which of the following are equations?	
Check all that apply.	
✓ 9x - 18 + 5x + d	
9x - 18 + 5x = d	
dx - 5(9x + 18)	
$\int 5(x+18) + 9x = d$	
Do you know the answer?	

# **Drive Instruction With Actionable Data**

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

#### **Administrator Report**

Activity, standards, progress, and usage reports

#### **Summative Assessment**

- Leveled Module Tests
- Module Review
- Module Vocabulary Tests
- Performance Tasks
- End-of-Course Test

#### PLUS

Build your own assessments with access to question banks featuring technologyenhanced items.



# 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.



## K-5 Reveal Math coming to your classroom Fall 2020

## Learn more about Reveal Math!



Visit **revealmath.com/6-8** to sample online and access a trial of the digital resources.

Visit **mheducation.com/contact** to request a presentation from your McGraw Hill Sales Representative.