Mc Graw Hill

Program Overview
Grades K–5

Georgia Reveal MATH®

Reveal the Full Potential in Every Student

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Designed to Meet Georgia Mathematics Standards

01 | Georgia Math Standards

With Georgia's Mathematics Standards as the center of development, *Georgia Reveal Math* is designed to ensure all students can access rigorous content through high-quality instruction and become doers of mathematics.

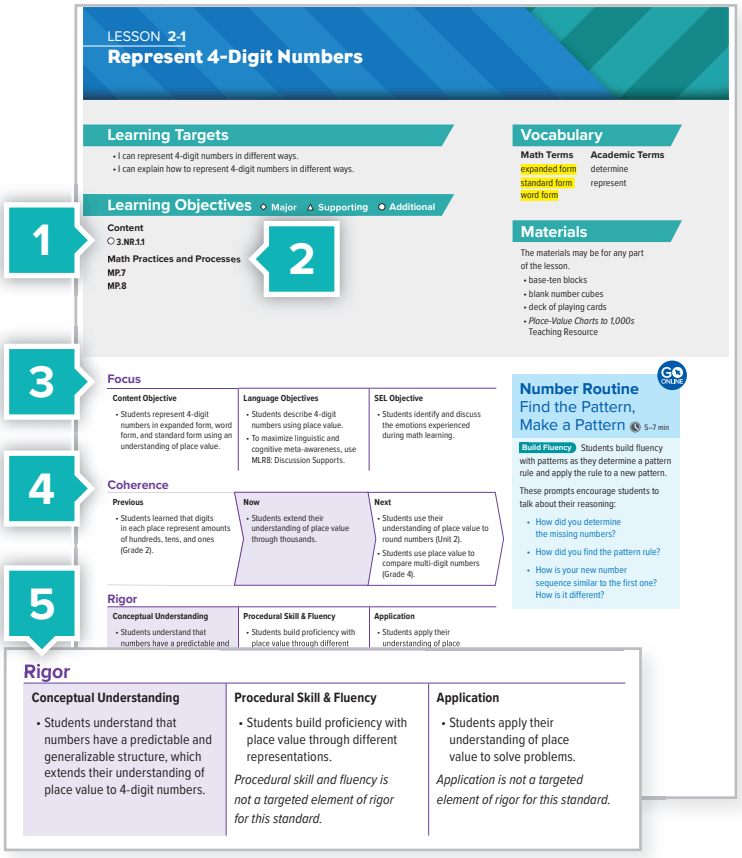
1. **Georgia Standards**
   Each lesson highlights the content standard covered

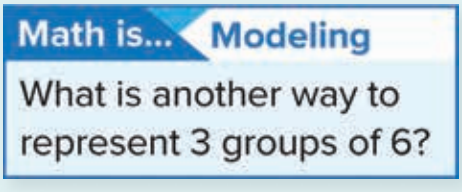
2. **Mathematical Practices**
   The Mathematical Practices are integrated into every lesson

3. **Lesson Focus**
   Each lesson has clear and concise objectives and focus

4. **Coherence**
   Lesson horizontal and vertical progressions demonstrate connection of mathematical topics

5. **Rigor**
   A clear balance of Conceptual Understanding, Fluency, and Application is outlined for each lesson





Mathematical Practices

Integrated into every lesson, **Math is... prompts** help students self-monitor and apply mathematical thinking and reasoning skills to the problem-solving process.

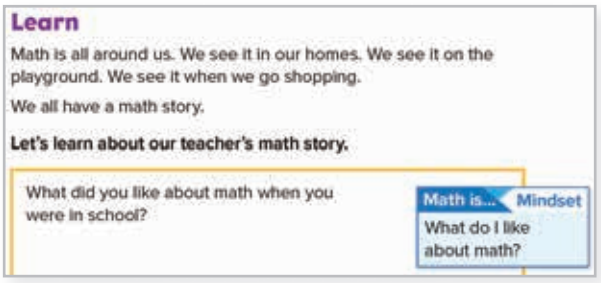
Math is...
More Than Just Numbers

Georgia Reveal Math looks to encourage students to see themselves as doers of mathematics. The first unit in each grade, the **Math is... Unit**, is designed to encourage all students to:

Understand that their math story is ongoing.

In this first lesson, students will:

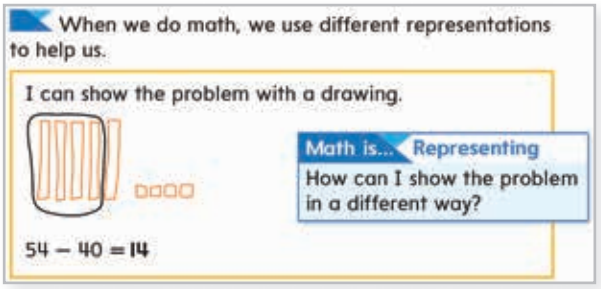
- Develop a **growth mindset**
- Take ownership of their math story



Develop mathematical thinking and reasoning.

In Lessons 2 through 5, students will:

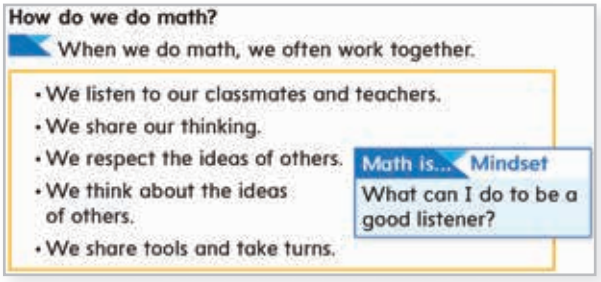
- Develop their **mathematical thinking habits**
- Communicate about and apply these skills to the problem-solving process

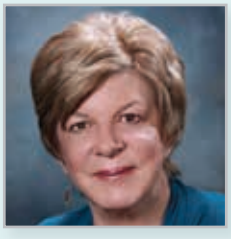


Create a collaborative classroom community.

In Lesson 6, students will:

- Develop a voice and choice in their classroom environment
- Establish **classroom norms** of interaction





Written by contributing authors Linda Gojak and John SanGiovanni

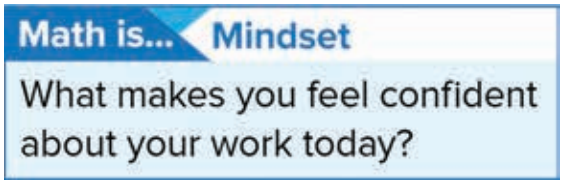
Create an Equitable Classroom

Georgia Reveal Math emphasizes a positive and productive classroom and supports conscious lesson planning for all students.

Georgia Reveal Math supports an equitable classroom through:

- Achievable academic goals
- Instructional focus on exploration, discourse, and sense-making
- Lesson access points for all students to participate
- Multiple representations to promote understanding
- Comprehensive language supports to access the language of mathematics
- Embedded scaffolds and supports to promote common access to rigor for all students
- Data-driven instructional choices
- Multi-modal differentiation

Focus on the Whole Child



Georgia Reveal Math identifies clear objectives to support students' development in understanding the math content, communicating confidently about mathematics, and approaching problem-solving with a growth mindset.

Build Literacy Skills for Mathematical Proficiency

Georgia Reveal Math was developed around the belief that mathematics is not just a series of operations but a way of communicating—listening, speaking, reading, writing, and most importantly, thinking. As a result, all students can benefit from support designed to develop and promote the use of mathematical language.

MLD

Math Language Development

Feature offers insights into one of the four areas of language competence—reading, writing, listening, and speaking.

MLR

Math Language Routines

Occur in every lesson to promote the use of mathematical language.

EL

English Learner Scaffolds

Based on WIDA levels and help students understand math vocabulary, ideas, and concepts in context.

Language Objectives

Identifies a linguistic focus of the lesson for all learners.

LOM

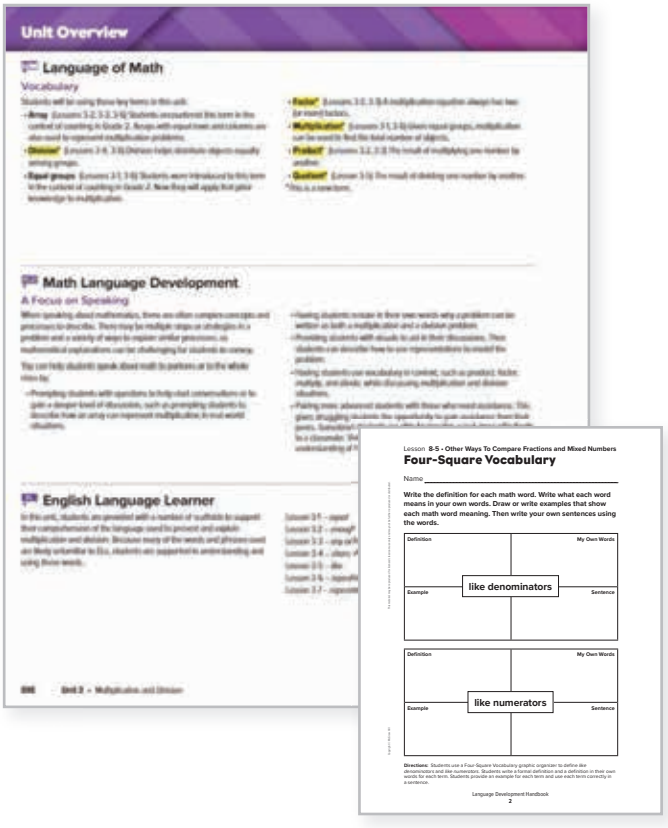
Language Development

Graphic organizers, tools, and tips for building students' academic and math vocabulary within each lesson.

LOM

Language of Math

Promotes the development of key vocabulary terms that support how we talk about and think about math in the context of the lesson.



Make Real-World Connections

STEM-Focused Units

Each unit highlights a STEM career and shows real-world applications of math to help students see math as a tool to explore the world around them. The **STEM Career Kid video** introduces a STEM career, and the **Math in Action video** applies the unit's math content to real-world situations.

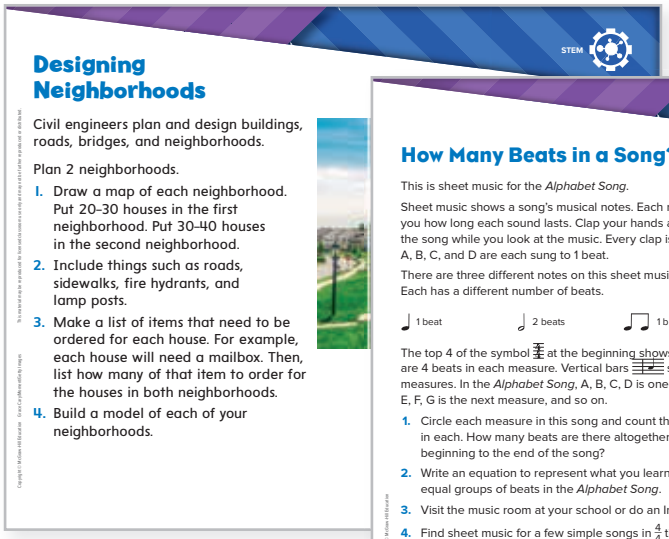
REDBIRD MATHEMATICS

Within **STEM Adventures**, students engage in experiments with the STEM Career Kids, make hypotheses, and apply mathematical knowledge to analyze the data.

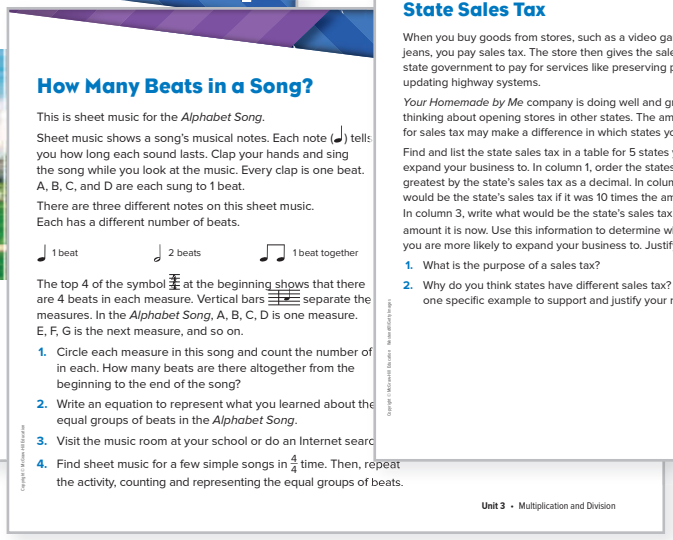
Real-world STEM connections are woven throughout ***Redbird Mathematics***, making math relevant for students. Many topics conclude with a digital STEM project.

Rigorous Application of Math

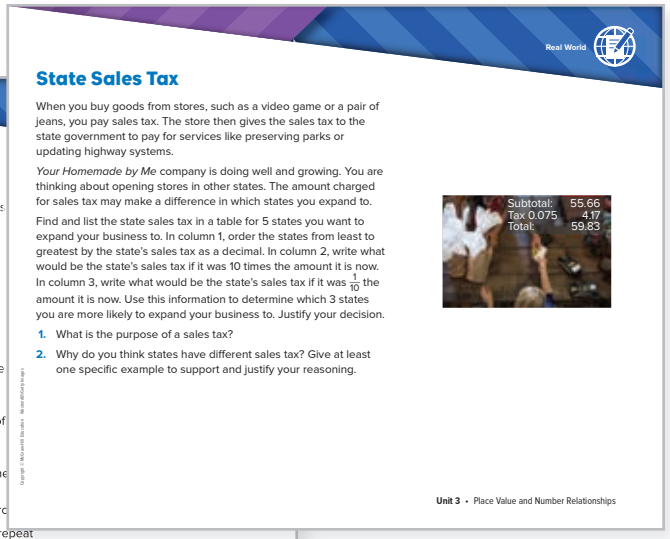
Every unit provides three in-depth **Application Station Cards** that help students extend their thinking and work at **higher depths of knowledge** as they connect the unit content to real-world examples.



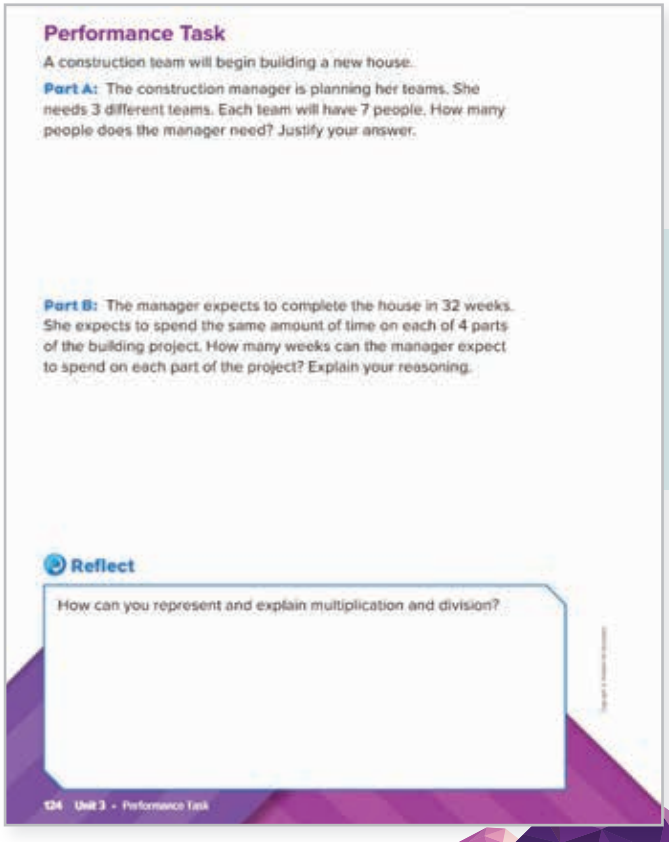
STEM Project Card



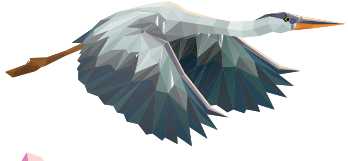
Cross-Curricular Connection Card



Real-World Card

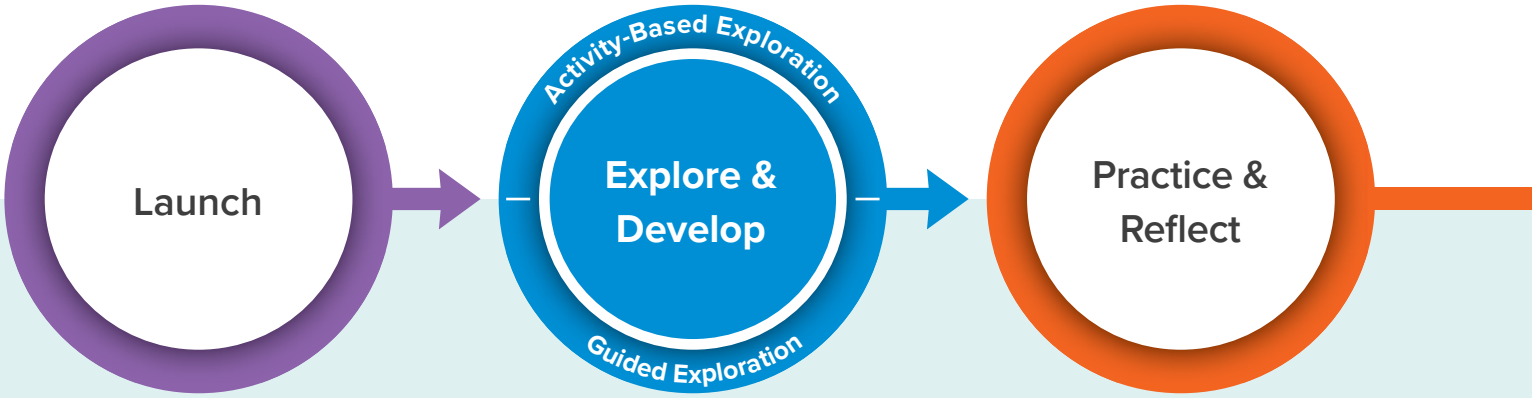


Each unit includes opportunities to reach higher depths of knowledge through **Performance Tasks**.



Utilize a Flexible Lesson Model

The *Georgia 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 lesson to the needs and structure of the classroom.



Teachers facilitate student conversations with the **Be Curious** activity to spark mathematical thinking and curiosity.

Teachers encourage student exploration through either the **Guided Exploration** or **Activity-Based Exploration** to foster student understanding.

(Two ways to teach every lesson!)

Teachers provide additional practice through **On My Own**, and students reflect on their learning.

Create Consistency in Learning

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

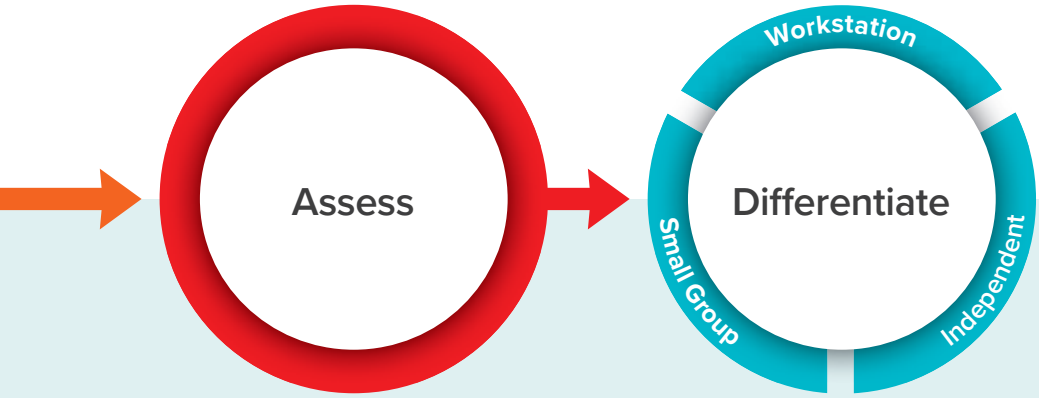
Build Fluency

Number Routines
Support the development of flexibility with numbers and fluency with operations at the start of every lesson.

MLR

Math Language Routines
Promote mathematical language use and development as part of math instruction.

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



Teachers will assign the **Exit Ticket** to inform instruction, and students communicate their confidence level with the teacher.

Teachers choose from a variety of **Daily Differentiation** activities to support every student's path to understanding, pulling small groups as needed to reinforce understanding.

Spark Curiosity Through Conversation

"Let's bring curiosity, wonder, and joy back into the classroom and make math irresistible for kids."

–Raj Shah
Contributing Author

IGNITE!

Name _____

Broken Calculators

Part A: Your calculator can only add 2s and 5s.
How can you make numbers less than 100 with this calculator?

Part B: Your calculator can only add 3s and 7s.
What whole numbers less than 12 *cannot* be made with this calculator?

How can you make each of the whole numbers 12 through 16 with this calculator?

What is the quickest way to make 30 with this calculator? Explain.

Is there a number greater than 11 that *cannot* be made with this calculator? Explain.

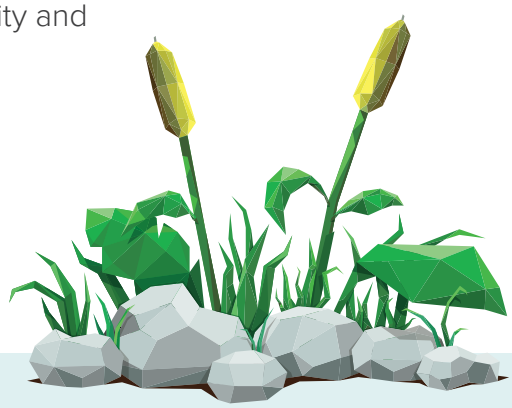
IGNITE!

Each unit opens with an **Ignite! activity**, an interesting problem or puzzle that:

- Sparks students' interest and curiosity
- Provides only enough information to open up students' thinking
- Motivates them to persevere through challenges involved in problem-solving

Notice and Wonder

Sense-making routines launch every lesson, creating an equitable classroom culture where all ideas are welcome and respected. Student curiosity and ideas shared in **Be Curious** become the base for the day's lesson.



"All students have ideas about math that are valid and worth talking about."

–Annie Fetter
Contributing Author

Accessible to All Students

Be Curious offers a low floor, high ceiling routine that allows every student to explore and discuss their ideas with multiple entry points and approaches to problem-solving.

Build Understanding Through Exploration

Teachers have their **choice of two instructional strategies** to facilitate student exploration within Explore & Develop:

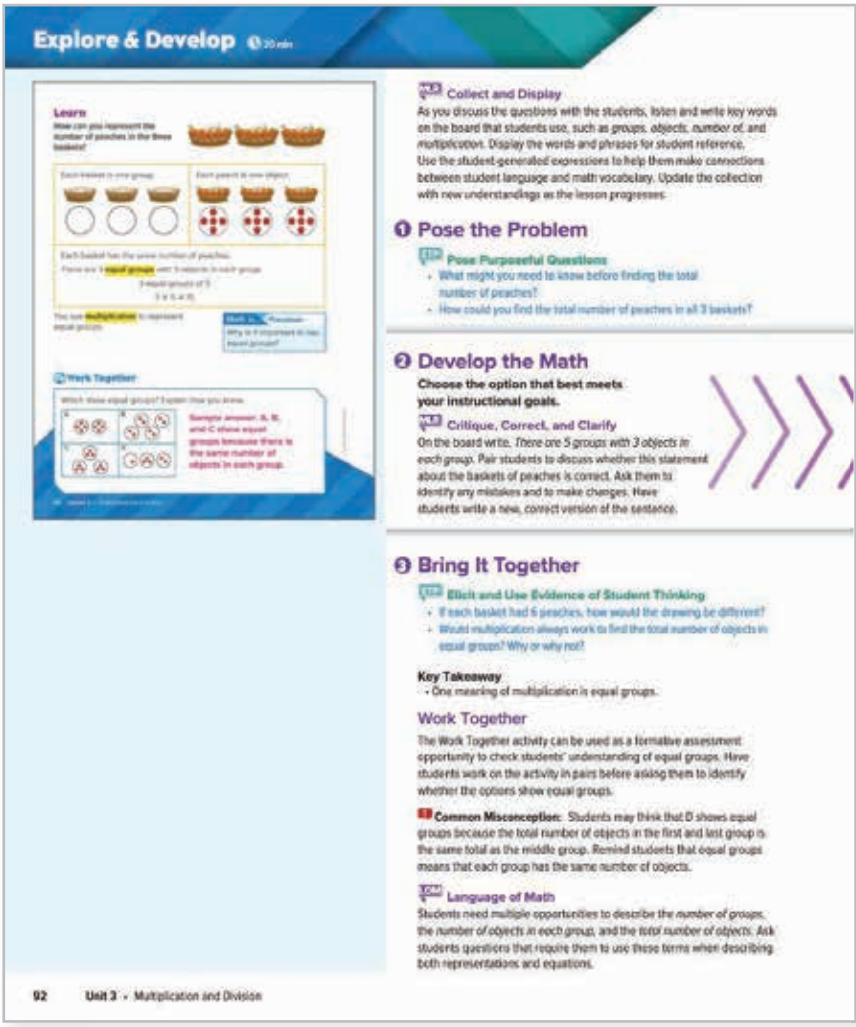
- **Activity-Based Exploration** allows students to explore concepts, develop and test hypotheses, and—most importantly—engage in productive struggle as they use mathematical modeling to gain understanding.
- **Guided Exploration** follows a teacher-facilitated exploration with a question-and-answer format and collaboration to promote rich discourse.

Math is... Precision

Encourage Mathematical Thinking Habits

To think like mathematicians, students must employ **mathematical practices and proficiency skills** to develop a problem-solving frame of mind.

Georgia Reveal Math helps students build proficiency through the **Math is... prompts**. These prompts are found in the Learn stage of every lesson and model the kinds of questions students can ask themselves to become proficient problem solvers and doers of math.



CHOOSE YOUR OPTION

Activity-Based Exploration

Students explore and use equal groups to find the total number of objects.

Materials: counters or other countable manipulatives, yarn or string

Directions: Students will explore ways to find the total number of peaches in 5 baskets.

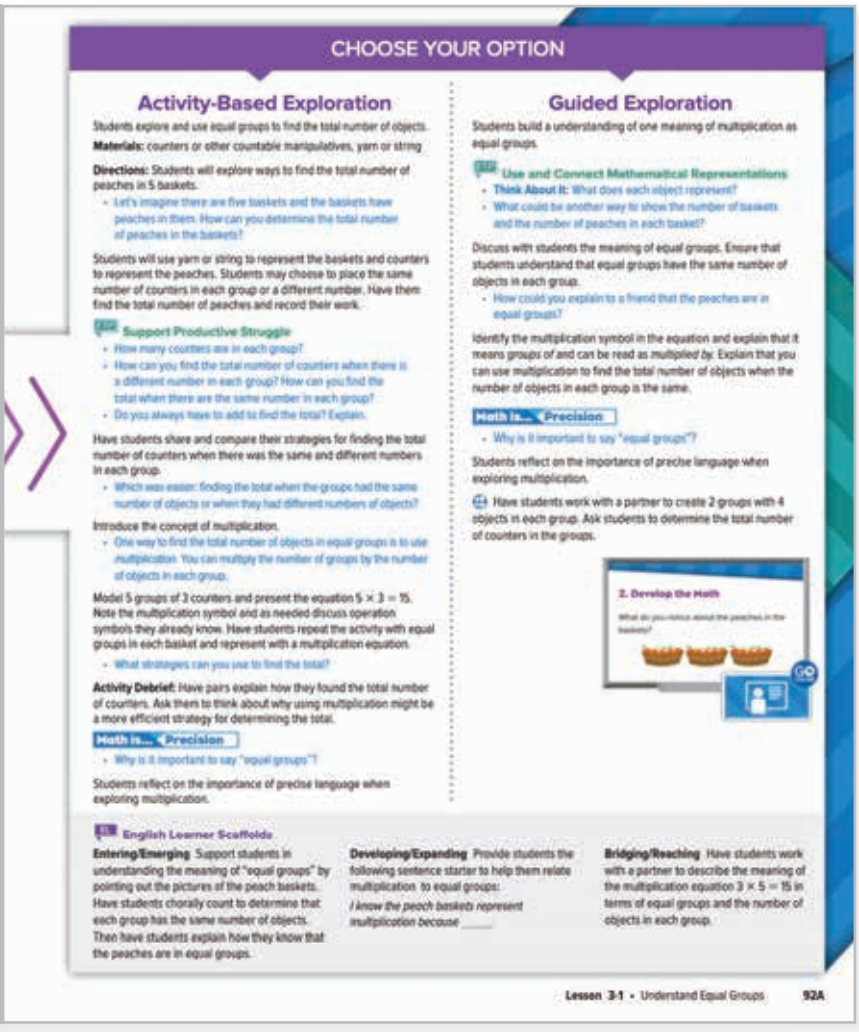
- Let's imagine there are five baskets and the baskets have peaches in them. How can you determine the total number of peaches in the baskets?

Guided Exploration

Students build an understanding of one meaning of multiplication as equal groups.

ETP2 Use and Connect Mathematical Representations

- **Think About It:** What does each object represent?
- What could be another way to show the number of baskets and the number of peaches in each basket?



Explore & Develop also offers resources for teachers, like:

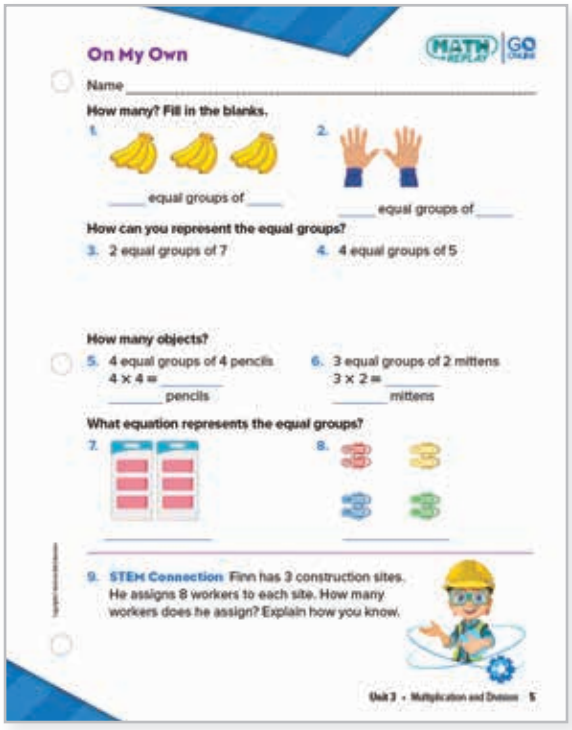
- **Integrated Effective Teaching Practices** guide instruction and discourse, keeping the student at the center of the learning.
- **Lesson Presentations** are available in an interactive format to demonstrate lesson concepts.

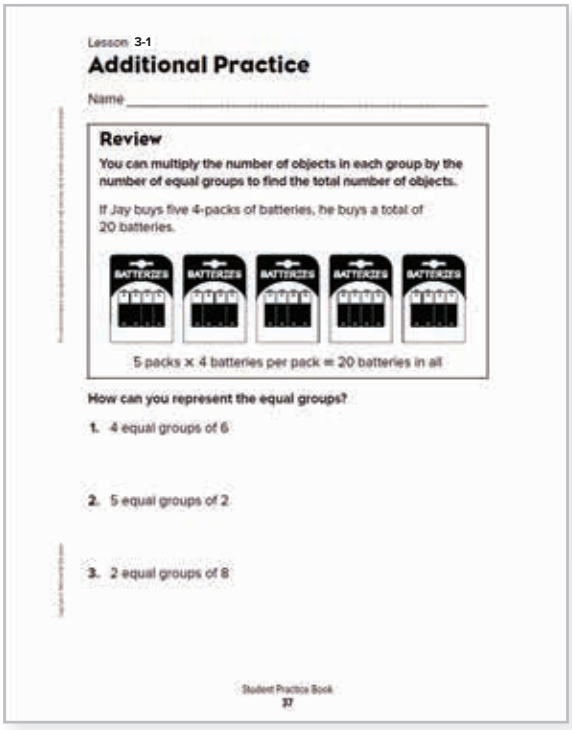
Strengthen Understanding Through Purposeful Practice

Practice & Reflect provides students with questions that address all elements of rigor to practice application along with the algorithmic procedures.

On My Own activities can be completed in the print Student Edition or eBook and are also available in Spanish.

Two additional practice pages can be completed in the **Student Practice Book** or **Interactive Digital Practice**, which embeds learning aids.



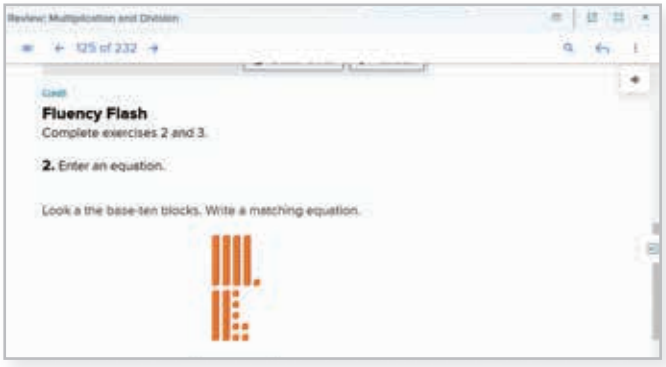


MATH REPLAY

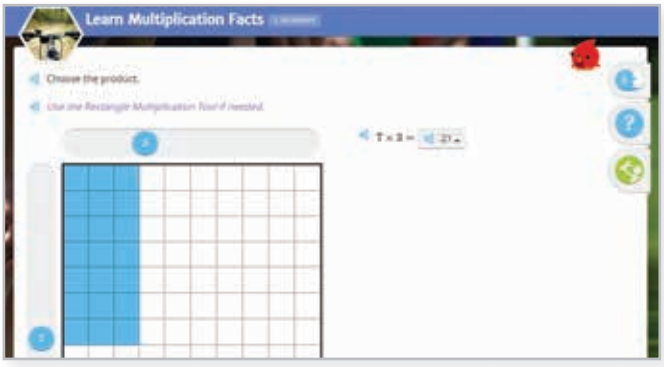
Every lesson contains a one- to two-minute video explanation of the lesson concept for students to reference as they complete independent work.

Build Fluency and Number Sense

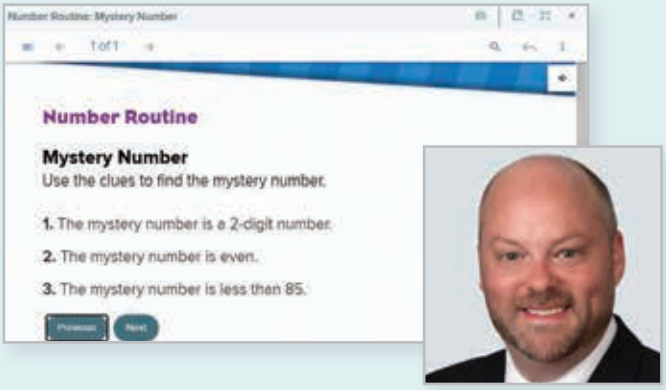
Spiral Review—Daily practice on the major concepts of each grade level in print and digital formats.



Fluency Practice—Per unit practice addressing each grade's fluency expectations in print and digital formats.



Redbird Mathematics—Adaptive instruction on the focus areas across grade levels to accelerate learning.



Daily Number Routines

Teachers utilize a **Number Routine**, written by John SanGiovanni, to build number sense and proficiency with numbers. This supports the students' ability to fluently and flexibly apply strategies to solve unknown problems.

Monitor Student Understanding

Georgia Reveal Math offers a comprehensive set of assessment tools that include diagnostic, formative, and summative tools.

Diagnostic

- Course Diagnostic
- Unit Diagnostic

Formative

- Exit Ticket
- Math Probe

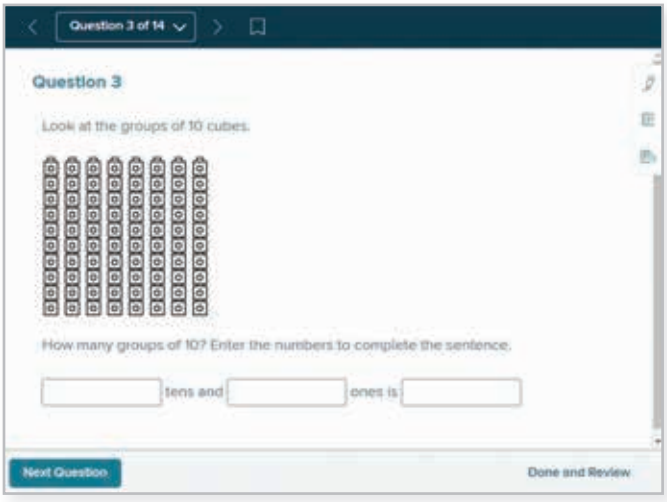
Summative

- Unit Assessment, Forms A and B
- Unit Performance Task
- Benchmark Assessments
- End-of-Year Assessments

Print and Digital Formats

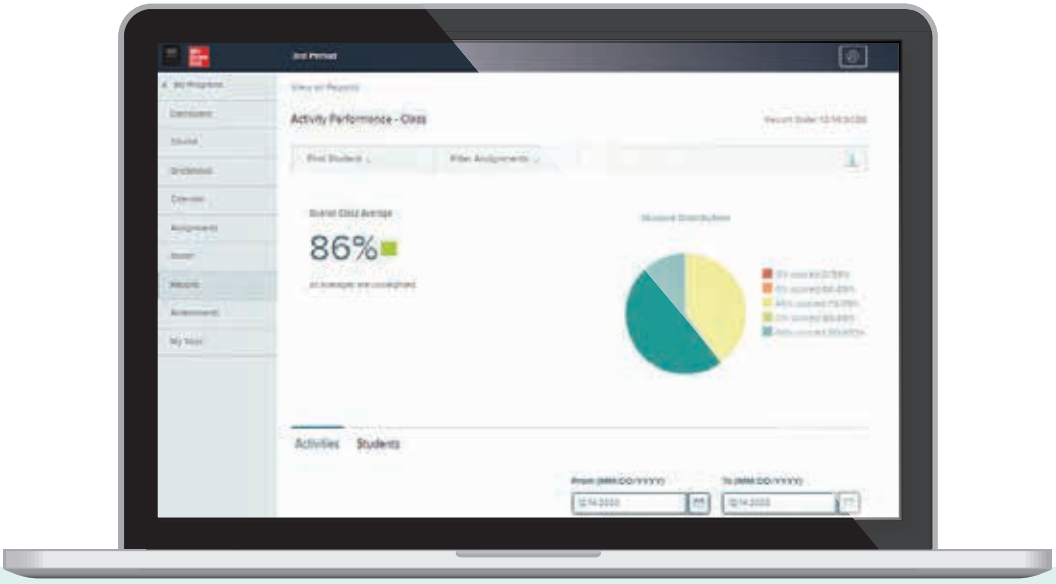
All assessments are available for either print or digital administration. Print Assessments can be found in the Assessment Resource Book or as downloadable PDFs in the Digital Center.

All digital assessment items, except for open response questions, are autoscored. Teachers can create new or customize existing assessments using additional item banks and item authoring tools.



Data to Drive Instruction

Performance reports—found in the Digital Teacher Center—provide immediate feedback to teachers, which allows them to make data-driven instructional decisions.



Activity Performance Report

Teachers can review useful data points for class activities, including item analysis by student and class.

Georgia Standards Report

Teachers can access class performance by standard, including a cumulative score by class and student.

MAP Growth Report

Teachers can view students' *MAP Growth* RIT scores and progress throughout the year.

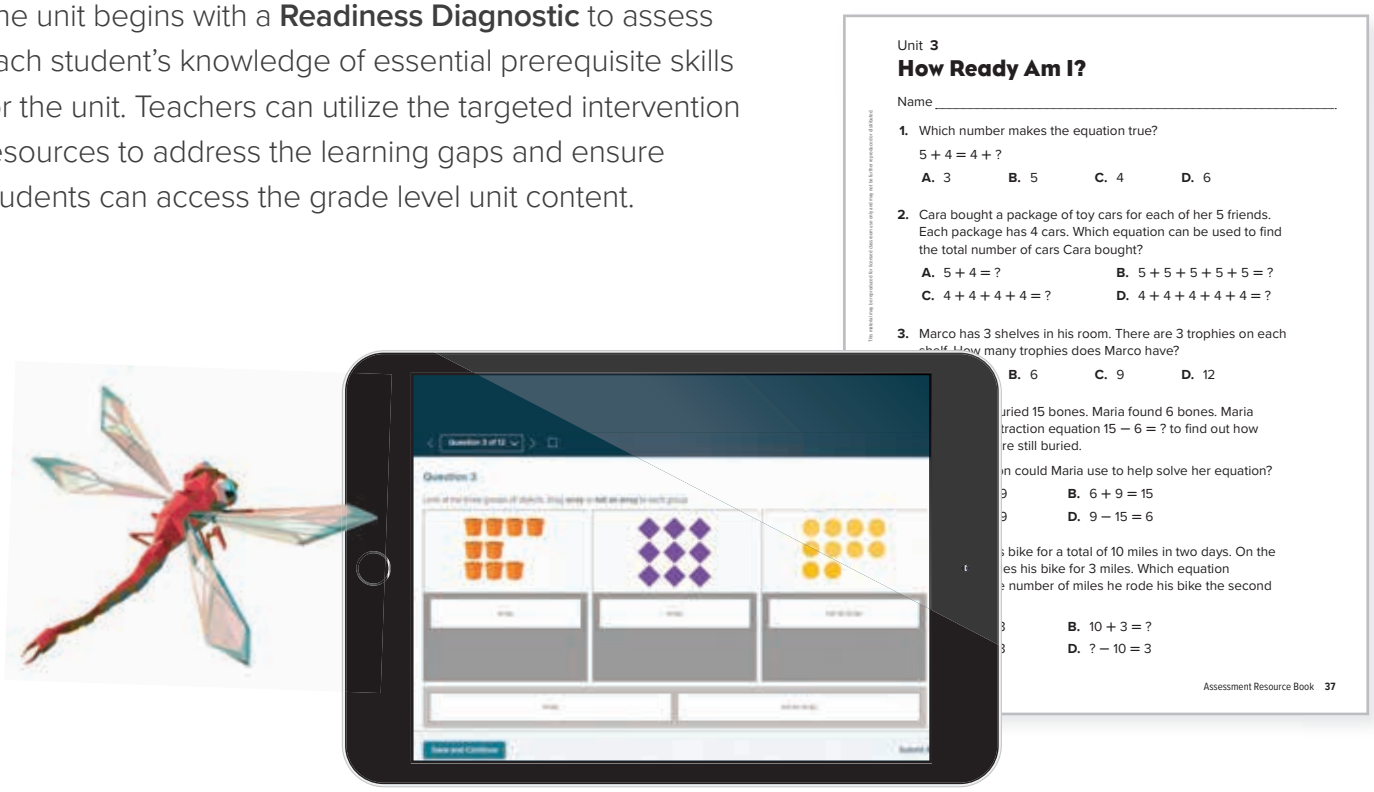
Integrate *MAP Growth* Data to Identify Gaps Early

MAP Growth™, the market's most trusted and accurate interim assessment, integrates its data with *Georgia Reveal Math* on the Open Learning Platform.

MAP Growth data can save teachers time by identifying students who may need additional support to access grade-level content. **Auto-grouping** and **Recommended Targeted Skill Paths** provide support and review of critical prerequisite skills.

Ensure Student Readiness for Each Unit

The unit begins with a **Readiness Diagnostic** to assess each student's knowledge of essential prerequisite skills for the unit. Teachers can utilize the targeted intervention resources to address the learning gaps and ensure students can access the grade level unit content.



Targeted Intervention

Intervention resources, including **Guided Supports** and **Skills Support Sheets**, align to the beginning- and end-of-unit assessment items and are available at the point-of-use to quickly correct misunderstanding and target gaps with small group lessons and practice sheets.

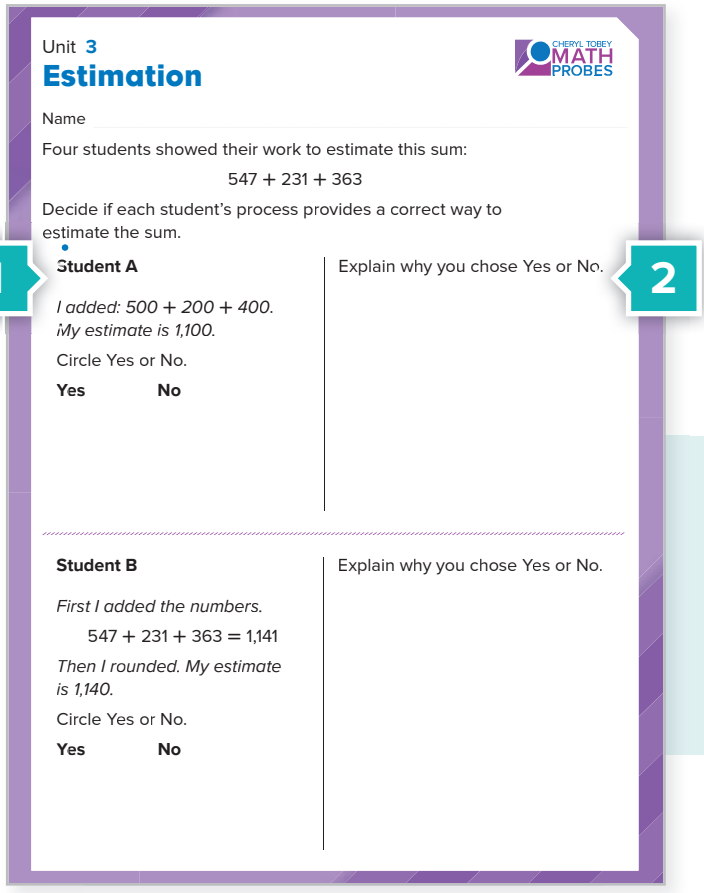
Item Analysis

Item	DOK	Lesson	Guided Support Intervention Lesson	Learning Objective
1	1	3-4	Unknown Group Size (Equal Groups)	3.PAR.3.2
2	2	3-3	Reorder Factors	3.PAR.3.3
3	1	3-1	Model Multiplication (Objects)	3.PAR.3.1
4	3	3-4	Unknown Group Size (Equal Groups)	3.PAR.3.2
5	3	3-1	Model Multiplication (Objects)	3.PAR.3.1
6	2	3-2	Model Multiplication (Arrays)	3.PAR.3.1
7	1	3-2	Model Multiplication (Arrays)	3.PAR.3.1
8	2	3-7	Word Problems Using Equations	3.PAR.3.7
9	3	3-6	Relate Multiplication and Division Facts	3.PAR.3.1 3.PAR.3.2

Item-Analysis charts within the Teacher Edition provide recommended intervention resources.

Recognize Misconceptions in the Moment

Math Probes support teachers to identify and target common misconceptions within the unit.


Unit 3
Estimation

CHERYL TOBEY MATH PROBES

Name

Four students showed their work to estimate this sum:

547 + 231 + 363

Decide if each student's process provides a correct way to estimate the sum.

1

Student A

I added: 500 + 200 + 400.
My estimate is 1,100.

Circle Yes or No.

Yes **No**

Explain why you chose Yes or No.

2

Student B

First I added the numbers.

547 + 231 + 363 = 1,141

Then I rounded. My estimate is 1,140.

Circle Yes or No.

Yes **No**

Explain why you chose Yes or No.

Short, Formative Assessment

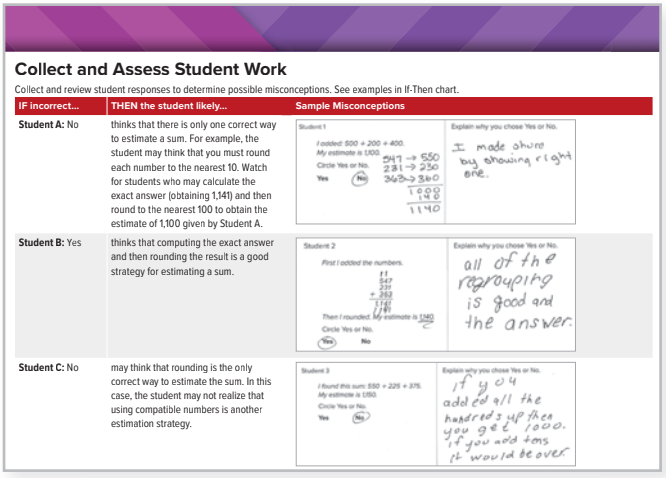
Each Math Probe features three to four items that are split into two parts:

1. **Part One** assesses students' understanding of concepts.
2. **Part Two** asks students to share their thinking about the concepts.

Written by contributing author Cheryl Tobey

Supports to Identify and Target

Authentic student sample responses help identify the misconception. Provided remedies help teachers correct misconceptions quickly and efficiently.

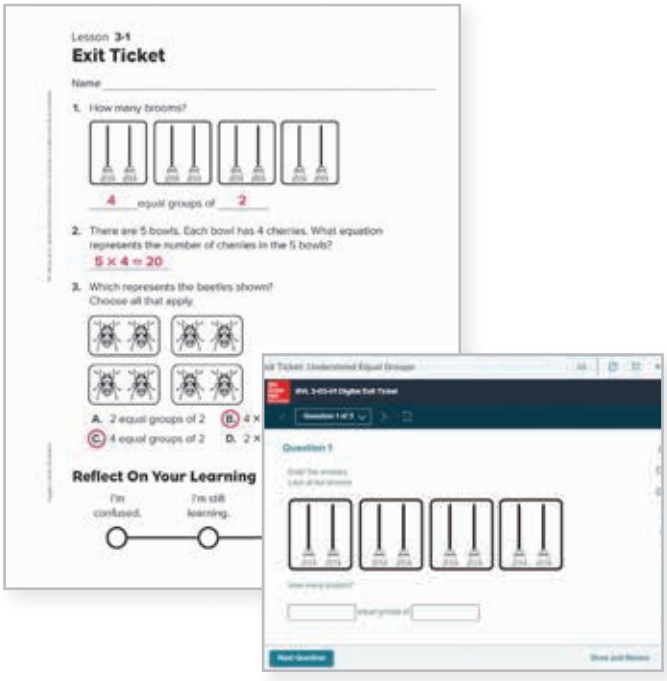

Collect and Assess Student Work

Collect and review student responses to determine possible misconceptions. See examples in If-Then chart.

IF incorrect...	THEN the student likely...	Sample Misconceptions
Student A: No	thinks that there is only one correct way to estimate a sum. For example, the student may think that you must round each number to the nearest 10. Watch for students who may calculate the exact answer (obtaining 1,141) and then round to the nearest 100 to obtain the estimate of 1,100 given by Student A.	Student 1 … Explain why you chose Yes or No. … I made sure by showing right one.
Student B: Yes	thinks that computing the exact answer and then rounding the result is a good strategy for estimating a sum.	Student 2 … Explain why you chose Yes or No. … all of the regrouping is good and the answer.
Student C: No	may think that rounding is the only correct way to estimate the sum. In this case, the student may not realize that using compatible numbers is another estimation strategy.	Student 3 … Explain why you chose Yes or No. … if you added all the hundreds up then you get 1000. if you add tens it would be over

Differentiate Based on Data

Exit Tickets are daily, quick formative assessments that take the guessing out of planning meaningful differentiation to raise all student learning. Teachers use students' scores on the Exit Ticket to decide on differentiated assignments from the robust differentiated resources available.



Exit Ticket Recommendations

If students score	Then have students do
4 of 4	Additional Practice or any of the ( ) or ( ) activities
3 of 4	*Take Another Look* or any of the ( ) activities
2 or fewer of 4	Small Group Intervention or any of the ( ) activities

Key for Differentiation

( ) Reinforce Understanding
( ) Build Proficiency
( ) Extend Thinking

Flexible Differentiation Options

Daily instruction includes workstations and online, independent activities to support daily differentiation:

Game Station

Small-group games engage with hands-on lesson content and opportunities for collaboration.

Application Station

Activities to apply unit content to higher depths of knowledge.

Digital Station

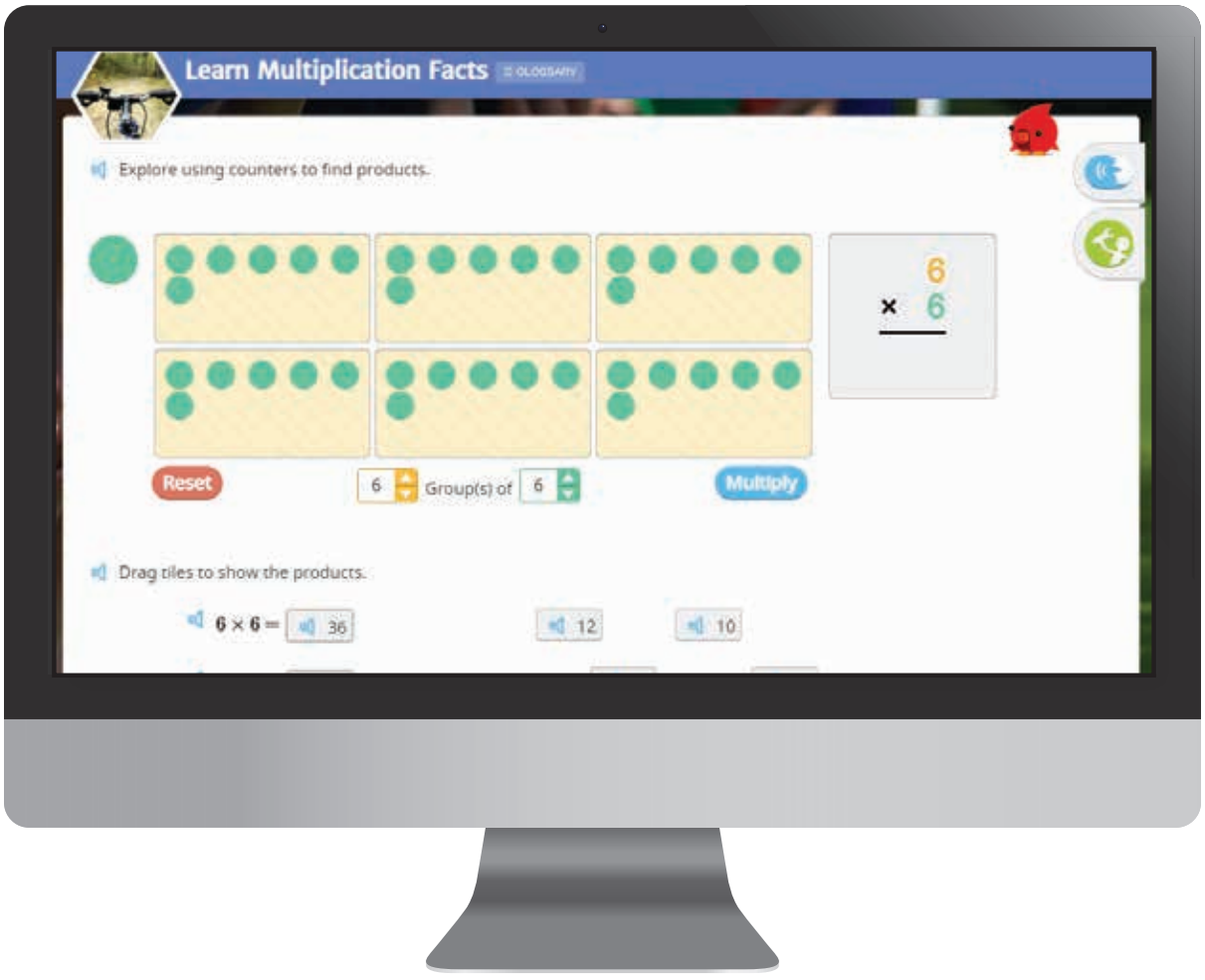
Interactive games to build proficiency throughout the unit.

Written by contributing author
Nicki Newton

Accelerate Learning for Every Student

Redbird Mathematics provides students the added advantage of a personalized learning pathway continuously adapting to them. *Redbird Mathematics* supplements *Georgia Reveal Math* instruction and accelerates learning for all students from remedial to advanced.

- Deliver just the right level and amount of instruction and practice to propel learning forward
- Use STEM connections to show students why algebra readiness matters and connect math to the real world
- Identify and close algebra readiness gaps without requiring additional whole-class instructional time
- Generate real-time data to make insightful, actionable decisions about every student's progress towards algebra readiness



Instruction Informed by Experts

McGraw Hill's Learning Scientists teamed up with expert authors to create a program guided by validated academic research and classroom best practices.

Ralph Connelly, Ph.D.

Professor of Education at Brock University and current member of NCTM Mathematics Education Trust Board

Annie Fetter

Math Education Specialist at the 21st Century Partnership for STEM Education

Linda Gojak, M.Ed.

Past President of NCTM and NCSM

Sharon Griffin, Ph.D.

Professor Emerita of Education and Psychology at Clark University in Worcester, Massachusetts

Susie Katt, Ph.D.

K–2 Mathematics Coordinator at Lincoln Public Schools in Lincoln, Nebraska

Ruth Harbin Miles, Ed.S.

Math Coach and past NCTM (2013-2016) and NCSM (2005-2008) Board of Directors member

Nicki Newton, Ed.D.

Educational consultant and the Founder and Developer of Math Online PD Academy

Georgina Rivera, M.Ed.

Current 2nd Vice-President of NCSM

John SanGiovanni, M.Ed.

Coordinator of Elementary Mathematics in Howard County, Maryland and past NCTM Board of Directors member

Raj Shah, Ph.D.

Founder of Math Plus Academy and a founding member of the Global Math Project

Jeff Shih, Ph.D.

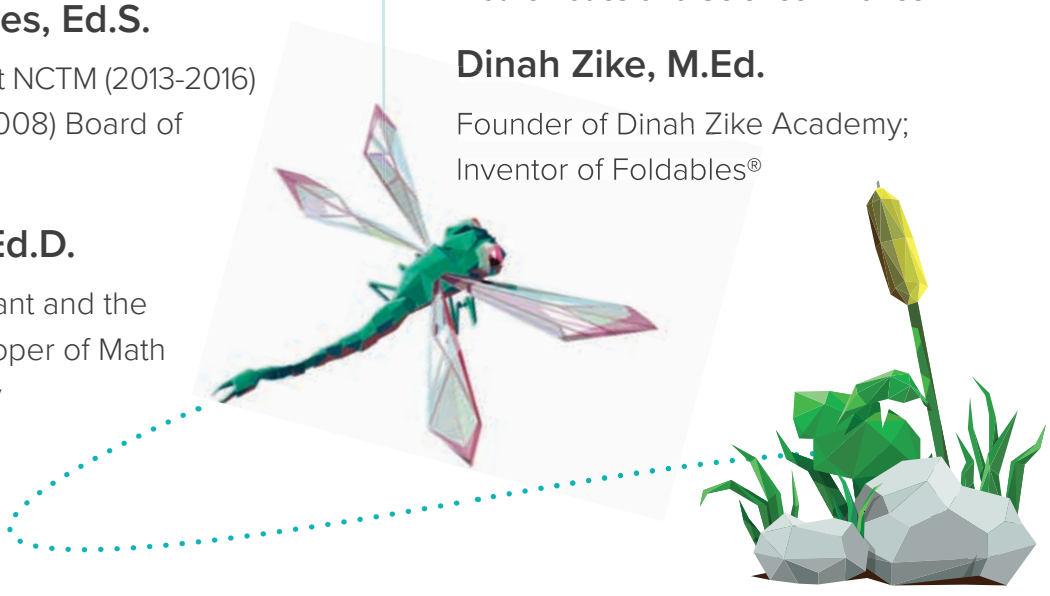
Instructor and professor at the University of Nevada and Current Member of NCTM Board of Directors

Cheryl Tobey, M.Ed.

Mathematics Program Director of the Mathematics and Science Alliance

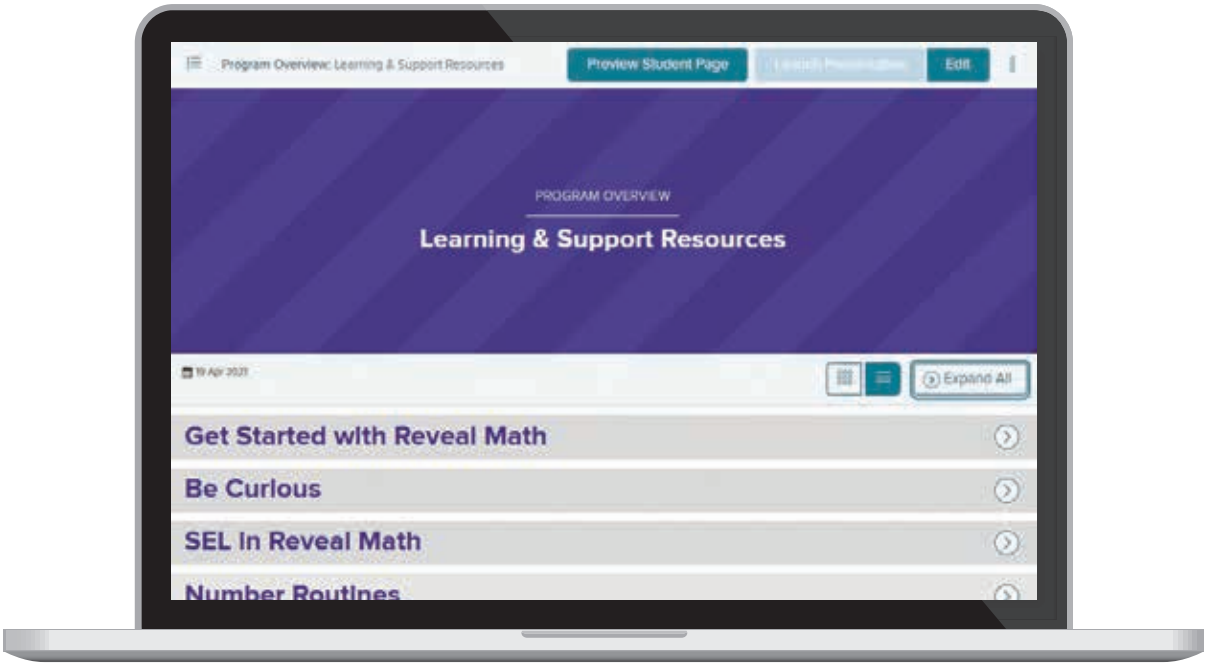
Dinah Zike, M.Ed.

Founder of Dinah Zike Academy; Inventor of Foldables®



Continued Learning Led by Experts

Teachers and administrators have access to a comprehensive set of online professional learning resources to support successful implementation and continued learning throughout the year.



Quick Start

Concise resources designed to quickly get teachers up to speed with *Georgia Reveal Math*.

Digital Walkthrough

Short videos guide teachers and students through the digital platform.

Workshop Modules

Video-based learning modules present instructional topics that are key to *Georgia Reveal Math*.

Expert Insights Videos

At the start of each unit, authors and experts share an overview of the concepts along with teaching tips and insights about how to implement the lesson.

Instructional Videos

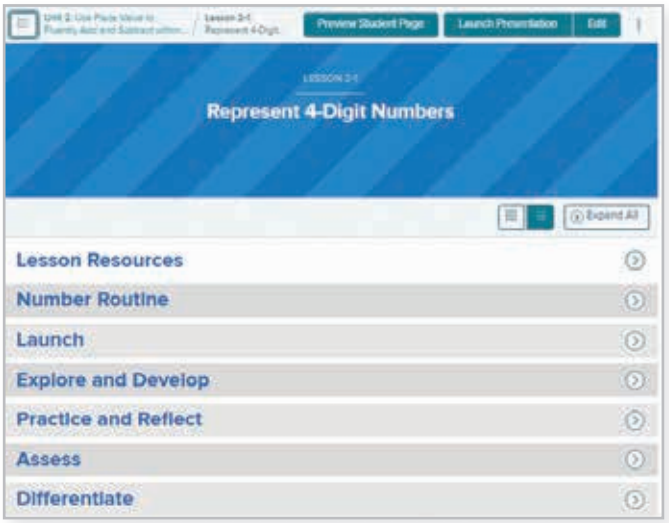
Authors showcase key features and provide implementation recommendations.

- Annie Fetter: Be Curious and Sense-Making Routines
- Raj Shah: Ignite! Activities
- Cheryl Tobey: Math Probes
- Linda Gojak: Guided and Activity-Based Exploration
- John SanGiovanni: Number Routines and Fluency

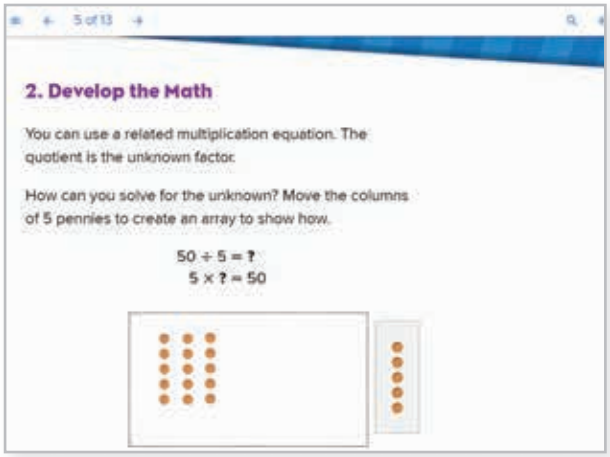
Easily Plan Lessons and Teach with Confidence

See all lesson resources at once

Teachers can view all the lesson resources and plan from organized lesson landing pages within the **Digital Teacher Center** that align to their print Teacher Edition layout. Lessons can be added to the calendar and easily accessed from the Teacher Dashboard on the day of learning.



Customize lesson presentations

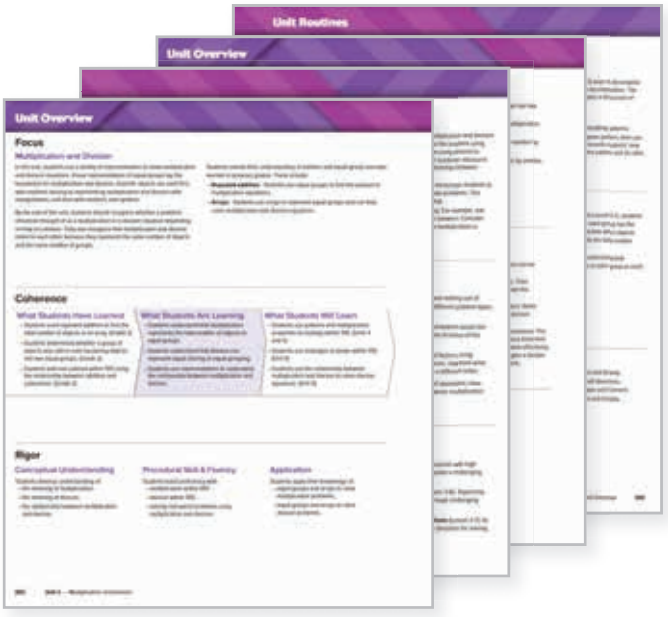


Teachers can launch interactive and engaging presentations with **embedded eTools** from their lesson landing page. Each lesson presentation can be reorganized or customized with teacher added resources.

Engage students with productive learning opportunities

The **Unit Overview** offers a comprehensive overview of the unit content for just-in-time professional support and includes:

- Content Overview
- Pedagogical Overview
- Language Overview
- Unit Routines



Access content through multiple learning management systems

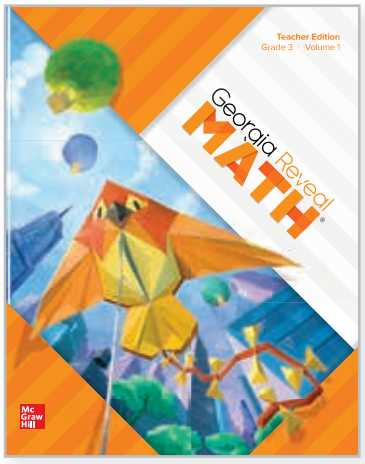
McGraw Hill's Open Learning platform currently integrates with the following Federated Standards: SAML 2.0 IDP, LTI 1.0, and Clever. Integration is possible with most learning management systems that support these standards, including but not limited to:

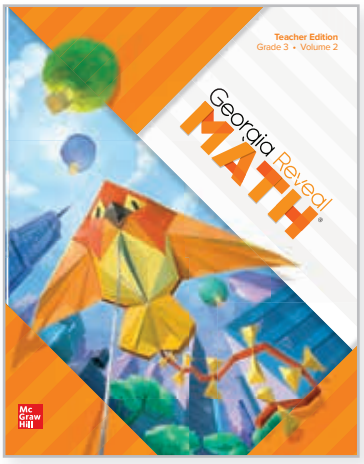
- Canvas
- Schoology
- Google Classroom
- Blackboard

Teacher Resources

Print Resources

Teacher Edition, 2-volume

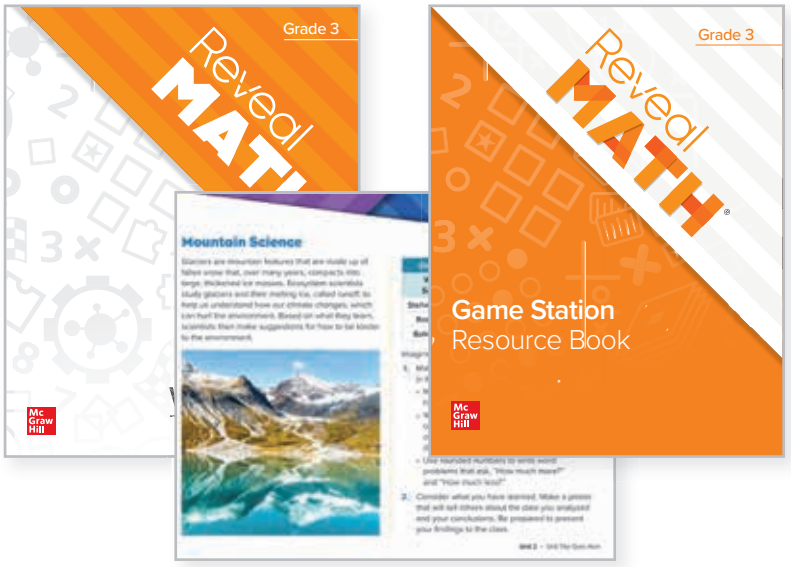




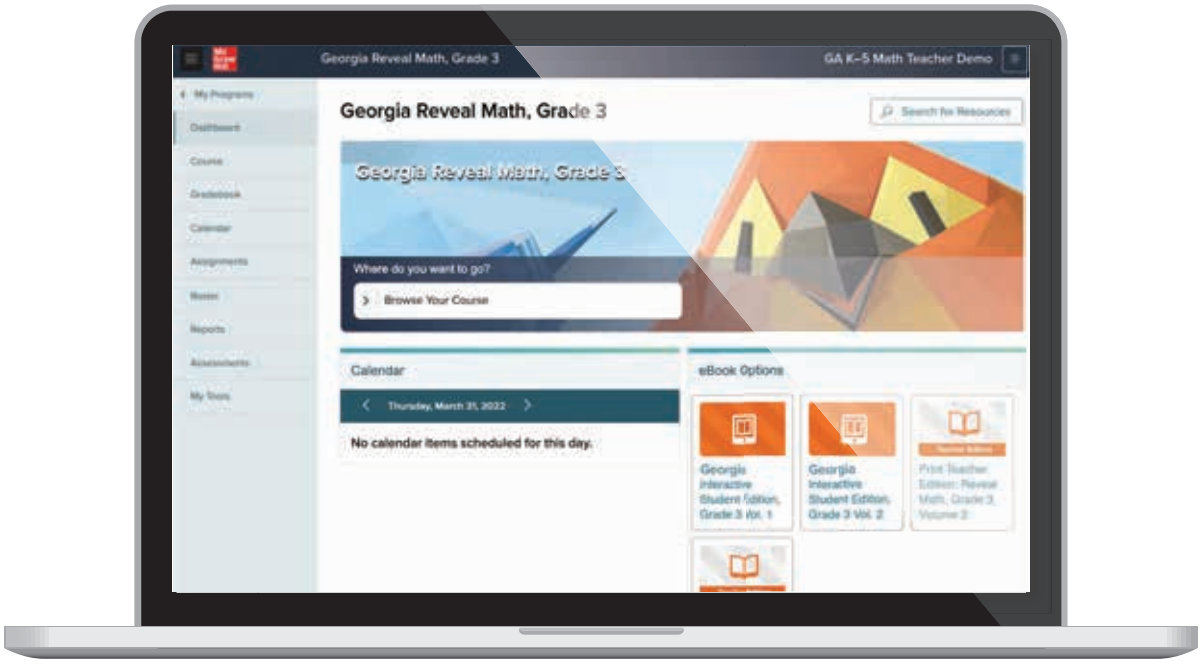
Classroom Workstation Kit

Workstation Teacher Guide
(in Digital Teacher Center)

Game Station Resource Book



Application Station Cards



Digital Teacher Center

Teachers have access to an intuitive and easy-to-use platform where they can plan and implement engaging instruction. The teacher experience includes:

- Daily, interactive lesson presentations
- Differentiation Resources
- Assessment Resources
- Auto-scored practice and assessment
- Customizable assessment and item banks
- Teacher and Administrator data and reporting
- Professional Development workshops and videos
- Ability to add resources, including presentations, website links, and more
- Classroom management and grouping tools

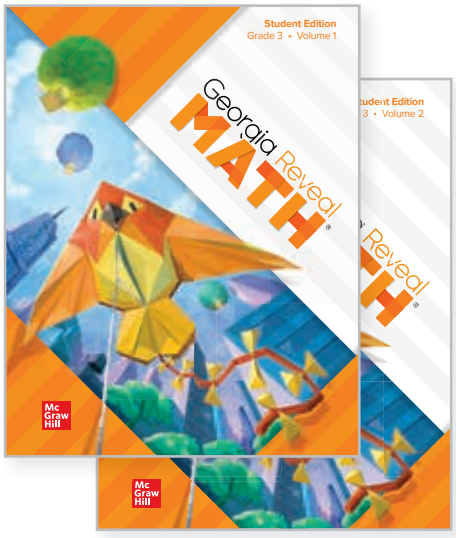
Manipulative Kits

The Classroom Manipulatives Kits include hands-on materials to support lesson instruction and are organized in plastic tubs for easy storage.

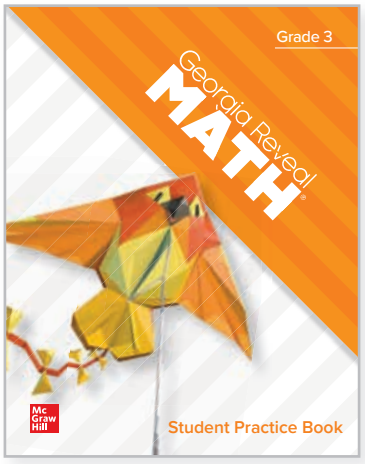
Student Resources

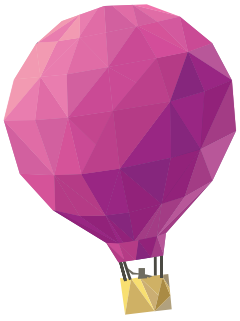
Print Resources

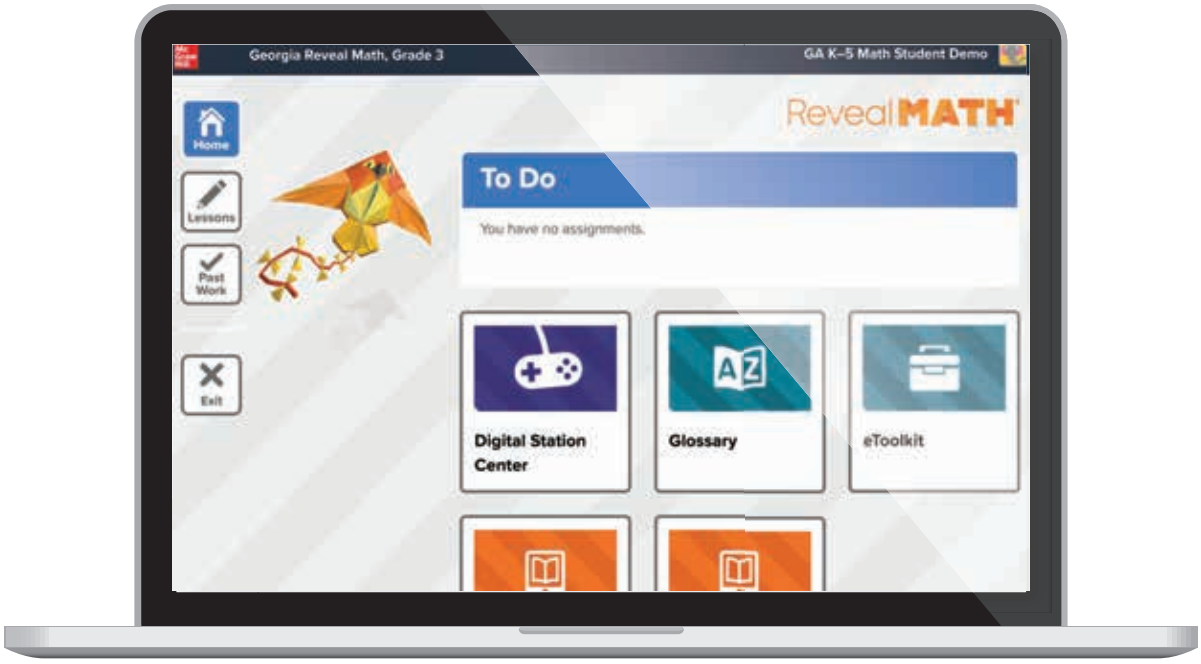
Student Edition, 2-volume



Student Practice Book







Digital Student Center

Designed with the needs of elementary students in mind, the Digital Student Center offers access to a robust set of engaging digital tools and interactive learning aids, including:

- Interactive Student Editions
- Daily, interactive practice with embedded learning aids
- Online assessments with interactive question types
- Adaptive instruction and practice through *Redbird Mathematics*
- Animations, glossary, videos, and eTools
- Digital games designed for purposeful practice
- Instructional mini-lessons to reinforce understanding
- Rich exploratory STEM Adventures
- Visual and dynamic Web Sketchpad® activities

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