

Developing Deep Mathematical Thinkers through Rich, Rigorous, Relevant Content

Rigor Everyday in Every Lesson

McGraw-Hill My Math was carefully constructed to help you meet the demands of the Common Core State Standards. The critical elements of a rigorous curriculum are woven through each lesson allowing students to progress to a higher level of achievement.

Conceptual Understanding – Before students even reach for their Interactive Texts, the teacher engages students in exploration and modeling of the mathematical concept with a hands-on experience.

Applications – Following a structured modeling activity that deepens conceptual understanding, students engage in Math in My World. These real world scenarios give relevance to the day’s lesson and provide essential application opportunities. Throughout the lesson, probing questions in the Teacher’s Edition provide meaningful, deep inquiries and collaborative conversations. The prompts encourage students to apply mathematical practices, extend mathematical thinking, and facilitate explanations and justifications.


Procedural Skill and Fluency –

Opportunities for students to develop fluency are embedded throughout the Interactive Text. Also available is unlimited practice online through engaging games!

INVESTIGATE

Investigate the Math

Model → Complete the table to describe the number of halves or equal parts.

<p style="font-size: small; color: #0070C0;">Info</p> <p>Into how many parts is each figure divided? 2 parts</p> <p>How does each part relate to its other part? Sample answer: They are equal.</p> <p>What does one half mean? Sample answer: One half is 1 of 2 equal parts of a whole.</p>	
	<p>_____ equal parts</p>

Math in My World

Example 1

Mrs. Roberts baked a batch of bagels. She arranged the bagels in 3 equal rows of 4 bagels each on the cooling rack. How many bagels did she bake?

Find the total number of bagels. Use counters to model the array. Draw the array.

rows of _____

Example 1

Read the example and work through the problem together. *What do we need to find? We need to find the total number of bagels that Mrs. Roberts baked. What do we know? The bagels are arranged in 3 equal rows of 4. What kind of a model can help us solve this problem? an array Use counters to model the array, and then draw your model. What does the array look like? 3 rows with 4 in each row Write a repeated addition sentence to find the total number of bagels. $4 + 4 + 4 = 12$ How many groups of 4 were added together? 3 Write a multiplication sentence that represents 3 groups of 4. $3 \times 4 = 12$ bagels Write $4 + 4 + 4 = 12$ and $3 \times 4 = 12$ on the board.*

Problem-Solving Investigation Lessons

Problem-Solving Investigation lessons provide rich opportunities for students to connect conceptual understanding, applications and procedural skills. The strategies are taught with the systematic steps: learn the strategy, practice strategy, apply the strategy and review prior strategies.

Name _____

Problem-Solving Investigation

STRATEGY: Make a Table

Learn the Strategy

Sofia bought 3 shorts and 2 shirts. Laura bought 4 shorts and 3 shirts. How many different short and shorts outfits can each girl make?

1 Understand
What facts do you know?
What do you need to find?
How many different _____ and _____ outfits they each can make.

2 Plan
Organize the information in a table of columns and rows.

3 Solve
Make a table for each girl. List the possible short and shorts outfits.

Shorts	Shirts	Outfits
Shorts 1	Shirts 1	Outfit 1
Shorts 1	Shirts 2	Outfit 2
Shorts 1	Shirts 3	Outfit 3
Shorts 2	Shirts 1	Outfit 4
Shorts 2	Shirts 2	Outfit 5
Shorts 2	Shirts 3	Outfit 6

So, Sofia can make _____ outfits, and Laura can make _____.

4 Check
Does your answer make sense? Explain.

Practice the Strategy

How many lunches can Mattie make if she chooses one main dish and one side dish?

1 Understand
What facts do you know?
What do you need to find?

2 Plan

3 Solve

4 Check
Does your answer make sense? Explain.

Assessment Practice for Success

Today's rigorous, high-stakes assessments require more critical thinking and problem-solving strategies.

Think Smart for the Smarter Balanced Assessment, Power Up for the PARCC Assessment, and 21st Century Assessments provide support to fit your specific needs:

1. Assessment Prep

- The most commonly seen assessment item types, with descriptions of the online experience, helpful hints, and example problems.
- Countdown to The Assessment—20 weeks of preparation for the assessment consists of five problems per week, paced with the McGraw-Hill My Math Student Edition.

2. Performance Tasks

- Performance Tasks for Every Chapter—Two-page multi-step performance tasks allow students to apply critical thinking skills in order to solve real-world situations.
- Countdown to Common Core Performance Tasks contains four multi-step benchmark performance tasks that cover a culmination of standards.

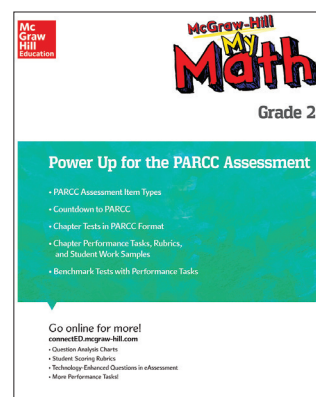
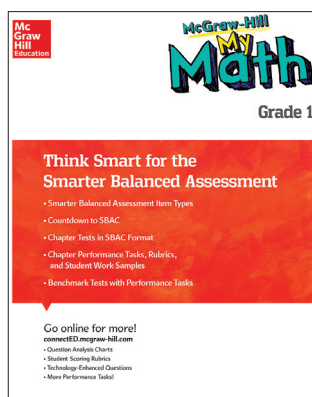
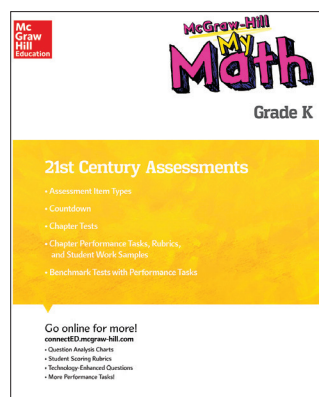
3. Technology Practice

- Practice the rigor and functionality required on today's technology enhanced assessments.
- eAssessment test items include technology enhanced questions, such as drag-and-drop, fill-in-tables, bin-sort questions, and many more.

Get Immediate, Actionable Data with eAssessment

McGraw-Hill My Math provides teachers and students with the most sophisticated PARCC and SBAC question types within the eAssessment system on *ConnectED*.

- **Customize assessments** by creating tests using thousands of prebuilt questions from the eAssessment questions bank, or use your own questions.
- **Simulate new assessments** with question types that reflect the rigor and technology of today's tests.
- Use data-driven instructional support through reports. eAssessment automatically grades and instantly prepares nearly twenty reports that provide simple, immediate data analysis to inform differentiation.



Project-based Learning Investigations

McGraw-Hill My Math gives teachers and students an inquiry approach to mathematical concepts and skills through Project-based Learning Investigations. They allow students to investigate, apply and reflect through exploration, using multiple representations as called for by the CCSS Standards for Mathematical Practice. The Project-based Learning Investigations provide powerful opportunities for students to work collaboratively while solving problems and applying mathematical concepts in real-world scenarios.



Activity Cards and Problem Solving Work Mats

McGraw-Hill My Math includes ready-made math centers that include connections to social studies, science, art and music. Through relevant, engaging activities, students apply math concepts to cross-curricular activities.

Did You Know?
Emperor penguins usually live 40 to 70 feet in average dive lasts 2 to 4 minutes.

Real-World Math
Use the information to solve each problem.

- Suppose that eight average-sized Emperor penguins are standing together. What is their total weight?
- Suppose that eight average-sized Emperor penguins are standing together. What is the total they can swim? (Use round.)
- Suppose a penguin's dive takes 4 minutes. How many times did he least dive during the day?
- How many miles can a penguin swim in 2 hours?
- Suppose it takes a penguin 3 minutes to walk from its resting place to the water where it dives. What is a reasonable number of times its least back in three hours before it dives?
- Based on the following table, estimate how many times a penguin's heart beats after completing all of the activities listed for two minutes each.

Activity	Heartbeat (beats per minute)
Resting	15
Before a Dive	140-200
Entering the water	180
Diving	20
Returning to surface	180

Voting Age

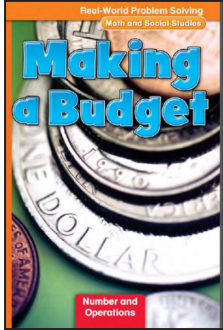
Materials:

- list of names and birthdays of students in the classroom
- poster board

$17 \frac{12}{13} - 10 \frac{1}{12} =$

Real World Problem Solving Readers

Leveled Real World Problem Solving Readers investigate situations and ask questions that engage students in close reading with the text, which requires them to provide evidence to justify their answers.



Real-World Problem Solving **Making a Budget**

1. Look at page 3. Suppose a nine-year old receives 50¢ less than **DOK3** the average weekly allowance and spends \$1 each week. How much would the student save in 3 weeks? [Chapter 1]

\$12

Chapter Projects

Motivating Chapter Projects challenge students to synthesize all of the concepts taught in the chapter for application in meaningful, relevant ways.

Project-Based Learning

Chapter Project

The Fruit Store

Students create a fruit store game and use multiplication and addition to charge “customers” for their purchases.

- Each group of students contributes to the store “inventory” by choosing a fruit from the following list: grapes, plums, apples, oranges, and pineapples. Students use markers and index cards to draw their fruits: one fruit per card, multiple fruits per group.
- Students make a price sign for their fruit: grapes, 1¢; plums, 2¢; apples, 4¢; oranges, 5¢; and pineapples, 10¢. Then, each group gets a chance to go shopping. They compute the bill using multiplication for purchases of more than one unit of a fruit, and add up the totals for each type of fruit.

Chapter Reflections

At the end of each chapter, students reflect on the essential question and attach new learning to their “conceptual velcro.” Students are asked questions that necessitate metacognitive thinking. Students write about mathematics using their graphic organizer, and provide evidence to support their learning.

Reflect → Chapter 4
Answering the **ESSENTIAL QUESTION** ?

Use what you learned about multiplication to complete the graphic organizer.

Draw Equal Groups **Real-World Problem**

Vocabulary **ESSENTIAL QUESTION** ?
What does multiplication mean? **Draw an Array**

Now reflect on the **ESSENTIAL QUESTION** ? Write your answer below.

234 Chapter 4 Understand Multiplication



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