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How to Use This Product

Kit Components

6 copies of 20 books

Teacher's Guide

Digital and Audio Resources
How to Use This Product (cont.)

Teacher’s Guide
Each five-day lesson sequence is organized in a consistent format for ease of use.

Overview
• The overview page includes learning objectives, a materials list, and a suggested timeline for the lesson.

Day 1
• Students are introduced to the book and the math concept or skill.
• Students build, expand, and apply understanding of the math concept or skill with concrete, representational, and abstract activities.

Days 2, 3, and 4
• Students complete reading and writing activities, as well as the “Let’s Explore Math” sidebars.

Day 5
• Students take what they’ve learned and apply it in context in the Problem Solving activity.
• Students take the reading and mathematics assessments.
How to Use This Product (cont.)

Student Activity Sheets and Assessments

- clear directions and activities that promote higher-order thinking skills
- reading and math quizzes with text-dependent questions

Directions:

Choose a text feature from the book, such as an image, illustration, or map. Write which text feature you chose, what it shows, and why it helps you better understand the text.

The text feature shows...

Name: ____________________________  Date: ____________________________
How to Use This Product (cont.)

Pacing and Instructional Setting Options

The following pacing and instructional setting options show suggestions for how to use this product. Mathematics Readers is flexibly designed and can be used in tandem with a core curriculum within a mathematics block, literacy block, or both. Teachers should customize pacing according to student need (instruction may need to be extended over more days) and the teacher’s preferred instructional frameworks, such as Guided Math or Guided Reading. This suggestion reflects one lesson per book for each of the 20 books. Each lesson spans 5 instructional days and requires 30–45 minutes, for a total of approximately 65 hours over the course of 100 days.

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
<th>Instructional Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Before Reading and Mathematics Investigation</td>
<td>45 minutes</td>
</tr>
<tr>
<td>2</td>
<td>During Reading</td>
<td>30 minutes</td>
</tr>
<tr>
<td>3</td>
<td>During Reading (cont.)</td>
<td>30 minutes</td>
</tr>
<tr>
<td>4</td>
<td>After Reading</td>
<td>45 minutes</td>
</tr>
<tr>
<td>5</td>
<td>Problem Solving and Assessments</td>
<td>45 minutes</td>
</tr>
</tbody>
</table>

Mathematics Readers within the Guided Math and Balanced Literacy Frameworks

Classroom Environment of Numeracy and Literacy—The books in Mathematics Readers contribute to an environment of numeracy and literacy by immersing students in real-world connections to mathematics and by giving students the opportunity to learn outside of content-area silos.

Whole-Class Instruction—The Before Reading activity in each Mathematics Readers lesson is a great opportunity to activate students’ prior knowledge and capture their interest in a topic.

Small-Group Instruction—The lessons in Mathematics Readers offer flexibility that allows students to complete Before Reading, Mathematics Investigation, During Reading, and After Reading activities in small groups or any other preferred instructional setting, depending on student need. These activities have differentiation suggestions and targeted objectives, and give students time to work with manipulatives and models.

Workshop—The During Reading, After Reading, and Problem Solving activities in each Mathematics Readers lesson can be completed during Math or Reading Workshop, in centers or at workstations, depending on students’ previous learning experiences and their need for teacher support.

Conferencing—The Problem Solving activity and assessments in each Mathematics Readers lesson offer multiple opportunities for teachers and students to confer about concepts and ideas.

Assessment—Mathematics Readers offers multiple formative and summative assessment opportunities. Teachers can gain insight into student learning through reading and mathematics quizzes, small-group observations, analysis of written assignments, and a culminating activity.
**Spectacular Sports: World’s Toughest Races: Understanding Fractions**

**Materials**
- *Spectacular Sports: World’s Toughest Races: Understanding Fractions* books
- copies of student activity sheets (pages 131–136)
- sentence strips (one per student)
- newspaper article about a race, if available

**Learning Objectives**
- Use information gained from illustrations and the words in a text to demonstrate understanding of the text.
- Write informative/explanatory texts in which students introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
- Understand fractions as quantities formed by equal parts of a whole that can be represented as distances from zero on a number line.

**Mathematical Practices and Processes**
- Make sense of problems and persevere in solving them.
- Model with mathematics.
- Attend to precision.

**Lesson Timeline**

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before Reading and Mathematics Investigation</strong> (pages 127–128)</td>
<td><strong>During Reading</strong> (pages 129)</td>
<td><strong>During Reading (cont.)</strong> (pages 129)</td>
<td><strong>After Reading</strong> (pages 129)</td>
<td><strong>Problem Solving and Assessments</strong> (page 130)</td>
</tr>
<tr>
<td>45 minutes</td>
<td>30 minutes</td>
<td>30 minutes</td>
<td>45 minutes</td>
<td>45 minutes</td>
</tr>
<tr>
<td>Use text features to preview and make predictions about the text. Partition strips and number lines to show equal parts, and solve problems using these models.</td>
<td>Identify text features and math models, explain how they enhance understanding, and respond to the “Let’s Explore Math” sidebars.</td>
<td>Write a newspaper article about a race.</td>
<td>Review the vocabulary, complete the problem solving activity, and take the assessments.</td>
<td></td>
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</tbody>
</table>
**Spectacular Sports: World’s Toughest Races: Understanding Fractions** (cont.)

### Mathematics Vocabulary
- equal parts
- whole
- fraction

### Before Reading
1. Ask students whether they have ever competed in a race. Generate a list of races, such as running, biking, and swimming. Brainstorm challenges participants might have to overcome for each race.

2. Explain that good readers use text features to overcome the challenges of understanding a text. Explain that sidebars, captions, and diagrams are all helpful text features.

3. Distribute the *Spectacular Sports: World’s Toughest Races: Understanding Fractions* books to students. Have students use text features to preview the book and predict challenges that athletes might face during each race.

4. Have students predict the mathematics that might be related to the topic based on one text feature from the book.

### Mathematics Investigation

#### Build Understanding
1. Read aloud from page 28 of the *Spectacular Sports: World’s Toughest Races: Understanding Fractions* books. Ask students to imagine that Taj and three of his friends don’t want to race the entire course length just yet. To train, they’ll do a relay—they’ll each complete a section of the course. Read the vocabulary words aloud. Guide students to create student-friendly definitions.

   - What’s the fairest way to compete in a relay?
   - What makes one part of the whole course equal to another part of the whole course?
   - What is a math word that describes parts of a whole?

2. Distribute sentence strips to students. Explain that each strip represents one whole length of the course. Ask students how they can use the strips to show the parts of the race that Taj and his three friends will complete.

   - Have above-level learners use additional strips with differing lengths to show how the equal-sized parts of the course change as the course length is increased or decreased.
   - Confirm that below-level learners and English language learners have not misinterpreted “Taj and his three friends” as a total of three people.

3. Ask students guiding questions to build understanding.

   - How many equal parts are in the whole?
   - How might folding the strip help?
   - If more friends want to join the relay, what happens to the size of the parts?
Expand Understanding

1. Ask students to explain how their strips show where one athlete stops running and the next athlete begins. Explain to students that they can use fractions to label the distance from the beginning of the strip to each point.

2. Ask students to use fractions to identify the distance from the beginning of the strip that each starting point/endpoint represents. Have students label the strips. Have them practice saying the fractions aloud (\(\frac{0}{4}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{4}{4}\)).

3. Ask students guiding questions to expand understanding.
   - What number in the fraction tells the number of parts in the whole?
   - What number in the fraction tells how far an athlete is from 0?
   - How is the whole course length shown as a fraction?
   - What did you label the halfway point?
   - What fraction of the relay does each athlete complete?

Apply Understanding

1. Distribute copies of the *Finding the Finish Line* activity sheets (page 131) to students. Explain that each number line represents one whole course length. Point out that only 0 and 1 are given.

2. Have students partition the number lines according to the designated number of athletes. Then, have students label each point as a distance from 0 using fractions.

3. Ask students questions to assess understanding.
   - How many equal parts must the number line have? How do you know?
   - How are you checking to make sure the parts are all the same size?
   - Would it help to find where half would be located on any of the number lines?
   - What other fractions can you plot that might help?
Finding the Finish Line

Directions: Taj and his friends completed three relays. Four kids were in the first relay, two in the second, and eight in the third. Mark the number lines to show the equal parts of the relay that each kid completed. Then, use fractions to label each point’s distance from 0.

1. How did you know where to mark the equal parts of each relay?

2. Which relay would you want to compete in? Why?
**Understanding Text Features**

**Directions:** Find and list three text features and one math model from the book. Write how each text feature helps a reader better understand the text. Describe how the math model helps a problem solver better understand the math situation.

<table>
<thead>
<tr>
<th>Page</th>
<th>Text Feature</th>
<th>How It Helps You</th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Page</th>
<th>Math Model</th>
<th>How It Helps You</th>
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</thead>
<tbody>
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