Teacher’s Guide
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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 lesson.

Day 1

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

Days 2, 3, and 4

- Students complete reading and writing activities, as well as the “Let’s Do 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
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>
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<tr>
<th>Day</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
<tr>
<td>Activity</td>
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<td>After Reading</td>
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<tr>
<td>Instructional Time</td>
<td>45 minutes</td>
<td>30 minutes</td>
<td>30 minutes</td>
<td>45 minutes</td>
<td>45 minutes</td>
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</tbody>
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*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.
Travel Adventures: The Great Barrier Reef: Place Value

Materials

- Travel Adventures: The Great Barrier Reef: Place Value books
- copies of student activity sheets (pages 54–59)
- images of blue tang fish and angelfish, if available
- linking cubes (50 per student)
- Fish (fish.pdf)
- Place Value Chart (placevaluechart.pdf)

Learning Objectives

- Identify the reasons an author gives to support points in a text.
- Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- Understand that the digits of two-digit numbers represent amounts of tens and ones, and use place value strategies to compare two-digit numbers with words and symbols.

Mathematical Practices and Processes

- Reason abstractly and quantitatively.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and express regularity in repeated reasoning.

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>
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<tr>
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<td>During Reading (cont.) (page 52)</td>
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<td>Problem Solving and Assessments (page 53)</td>
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<tr>
<td>45 minutes</td>
<td>30 minutes</td>
<td>30 minutes</td>
<td>45 minutes</td>
<td>45 minutes</td>
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Use information from the back cover to support an author’s point. Use manipulatives to make groups of tens and ones to compare two-digit numbers.

Read the text and identify reasons that support a point the author makes, and respond to the “Let’s Do Math” sidebars.

Give reasons to support an opinion.

Review the vocabulary, complete the problem solving activity, and take the assessments.
Before Reading

1. Display the *Travel Adventures: The Great Barrier Reef: Place Value* books. Read the title and back cover aloud. Explain the author's point that the Great Barrier Reef is beautiful. Have students identify reasons why the author thinks the Great Barrier Reef is beautiful (e.g., *It is big, old, alive, and Many colorful sea creatures live there.*).

2. Explain that authors give reasons to support points they make in their writing. Good readers find support in the text to better understand the points authors make.

3. Preview the “Let’s Do Math” sidebars with the class. Have students predict the point of the mathematics in the book. Have them support their predictions with evidence, such as math words, examples, and diagrams.

Mathematics Investigation

Build Understanding

1. Have students examine the image of the sea turtle on page 13 of the *Travel Adventures: The Great Barrier Reef: Place Value* books. Ask students to imagine that a scuba diver sees 24 sea turtles while exploring the Great Barrier Reef. Read the vocabulary words aloud. Guide students to create student-friendly definitions.

2. Tell students that on the same day, the scuba diver also sees 16 blue tang fish and 29 angelfish. If available, display images of a blue tang fish and an angelfish. Distribute linking cubes to students. Ask students how they can use the cubes to make groups of tens and ones to prove which number of fish is greatest.

   • Have above-level learners work with partners, each student using cubes to represent chosen numbers with groups of tens and ones. Have students name the number represented by their partners’ cubes, and then work together to compare the numbers.

   • Provide below-level learners with multiple opportunities to build groups of ten with cubes and to state how many groups of ten are represented. Continue with groups of ten (1, 2, or 3) with some ones left over, and discuss what numbers are represented.

3. Ask students guiding questions to build understanding.

   • How many groups of ten fish are there? How do you know?

   • How can this help you decide which number of fish is greater?

   • After making groups of ten, were there any leftover ones?
Travel Adventures: The Great Barrier Reef: Place Value (cont.)

Mathematics Investigation (cont.)

Expand Understanding

1. Ask students to explain how linking cubes helped them compare numbers. Explain that phrases and symbols can also be used to compare numbers. On the board or chart paper, write the phrases greater than, less than, and equal to. Then, write Dev saw 52 fish and Steven saw 56 fish.

2. Distribute nine groups of ten and nine single fish cut from Fish (fish.pdf) from the Digital Resources to students. Additionally, distribute Place Value Chart (placevaluechart.pdf) from the Digital Resources to students. Have students represent each number on the place value chart using groups of ten fish and single fish. Then, have them use the model to compare the numbers using the phrases greater than, less than, or equal to.

3. Tell students that symbols can be used to represent the phrases. On the board or chart paper, write the symbols >, <, and = next to their corresponding phrases. Next, write 52 ________ 56. Have students use the symbols >, <, or = to compare the numbers. Point out to students that the “arrow” in the symbol points to the lesser number.

4. Ask students guiding questions to expand understanding.
   - How many groups of ten are in 52? How many ones?
   - How many groups of ten are in 56? How many ones?
   - How can you tell which number is greater?
   - What words or symbols can you use to compare 52 and 56?

Apply Understanding

1. Distribute Making Comparisons (page 54) to students. Explain they will first use the words greater or less to compare numbers. Then, they will use the symbols >, <, or = to compare numbers.

2. Ask students questions to assess understanding.
   - How can groups of ten help you compare numbers?
   - If the number of tens is equal, how can you use ones to compare the numbers?
   - When there are no ones left over, what digit will be in the ones place?
Making Comparisons

Directions: Compare the numbers.

1. Write greater or less to compare.

   a. _______ is __________ than

   b. _______ is __________ than

   c. 11 is __________ than 31

2. Write >, <, or = to compare.

   a. _______ 

   b. 8 tens and 4 ones _______ 9 tens and 2 ones

   c. 25 _______ 27
Reef Reasons

Directions: Write a reason from the book that supports the author’s point. Draw a picture to match what you wrote.

Author’s Point:
There is a lot of life in the Great Barrier Reef.

Supporting Reason:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________