

# Mummies in the Library:

## Divide the Pages

by John Perritano

### Math Objective

Children use division to solve word problems in situations involving equal groups, arrays, and quantities. Children divide and write number sentences and division problems. They use strategies such as the relationship between multiplication and division or properties of other operations, such as repeated subtraction on a number line.

### iMath Discover Activity

In this activity, children find the total number of objects. Then, they roll a number cube and divide that number into their total. Children become fluent with the language and strategies involved in division.

#### Materials

- a collection of 20 or more objects
- a number cube

#### ► Objectives Children will:

- count and find a total.
- divide and find a quotient.
- identify the remainder.
- select a strategy to divide the total into equal groups.

## Lesson Plan

### Before Reading

#### Investigation

pp. 4–5: Ask children to look at the picture on p. 4. Ask: *What is a mummy? What is another kind of mummy?* Then, have a volunteer read the text on p. 5 aloud.

Ask: *What do you think about the reading challenge? Have you ever participated in a book-reading contest? How could we write the problem on this p.5 as a division*

#### Math Concepts

Connecting to what they know helps children engage in the topic.

Accessing prior knowledge gets children to think about and engage with the topic. Check children's understanding.

sentence? Record children's answers on the board.

In this book, children learn about mummies and join a brother and sister as they take up a "Reading Challenge." Children use different division strategies and learn to write division equations.

## During Reading

### Investigation

pp. 6–9: Have children read these pages silently. Then, reread pp. 6–7 aloud. Hold up the text and say: *This book has 32 pages. How many groups of 8 pages can we make out of 32 pages?* Count out or draw an array of 4 groups of 8 pages in folios of two pages. Pass out graph paper. Have children draw the array on p. 7. Say: *Divide the array up into groups of 8 by circling blocks. Is this a good way to find out how many pages must be read each day?* Let children give their opinions. Reread p. 8 aloud. Ask: *Do you think using a number line or tally marks are good ways to find out how many pages must be read a day? Why or why not?* Read p. 9 aloud and have volunteers write the problem as a division sentence and a division equation in two ways. Provide some books for children on Egypt and Egyptian pharaohs and mummies. Let children find the number of pages in these books and write division sentences and problems to show how to find how many pages would have to be read in 8 days.

### Math Concepts

Hands-on experience helps children understand and engage with the topic. Children interpret whole-number quotients of whole numbers, e.g., interpret  $56 \div 8$  as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. Children evaluate strategies and fluently write division sentences and division problems.

pp. 12–13: First, have children read these pages silently. Reread p. 12 aloud. Invite a volunteer to draw the array on the board and demonstrate solving the problem. Reread p. 13 aloud. Invite a volunteer to draw the number line on the board and demonstrate solving the problem. Look at the bottom of p. 13. Ask: *How would you use the tally marks to find how many pages must be read a day? Is this a good way to find the answer?*

Children use multiplication and division to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings and symbols. They also multiply and divide, using strategies such as the relationship between multiplication and division or properties of operations like repeated subtraction.

## During Reading (continued)

pp. 14–15: First, have children read these pages

Children use multiplication and

silently. Reread pp. 14–15 aloud. Write the division problem on p. 15 on the board. Then draw an array with 20 groups of 8 squares. Say: *We know that 8 groups of 20 equal 160. So we know that the quotient to our division problem will be more than 20. But how much more? 160 from 200 is 40. How many groups of 8 are 40? Or what is  $8 \times ? = 40$ ?* (5) *We know our quotient will be 25.* Add 5 more groups of 8 to the array of 20.

pp. 16–17: Read pp. 16–17 silently and then reread p. 16 aloud. Show children a map of Egypt and the Nile River. Ask: *Why do you think hippos no longer live along the Nile River?* Tell students that the climate around the Nile was cooler and wetter thousands of years ago. Read p. 17 aloud. Draw a small stick figure and label it 4 feet tall. Next to it, draw a crocodile shape and label it 15 feet long. Ask: *How many boys would it take to be longer than the crocodile?* (4) *How can we find out?* Have children write a division equation to show the problem. Read the bottom of p. 17 aloud. Ask: *How can we use an array to show this problem? How is a calendar like an array?*

pp. 18–19: Let children read these pages silently. Then reread p. 18 aloud. Have the children answer the questions on this page. Reread pp. 19–20 aloud. Draw 10 toes on the board. Write 60 minutes next to it. Ask: *How do we find how many minutes it took to wrap one toe?* Have a volunteer write a division equation to express the problem. Ask: *How could we use a number line and repeated subtraction to find the answer?*

pp. 21–22: Read pp. 21–22 silently. Reread p. 21 aloud. Let children work in pairs to find the answer to the problem on p. 21. Remind the children of the different strategies they might use on pp. 6–9. Have the pairs share their strategies and answers. Read p. 22 aloud. Have children solve the problem at the bottom of p. 22.

division to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings. They also multiply and divide, using strategies such as the relationship between multiplication and division. Children determine the unknown whole number in a multiplication or division equation.

Children use multiplication and division to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings and symbols. Children determine the unknown whole number in a division equation.

Children use multiplication and division to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings and symbols. They fluently write division sentences and equations. They use a number line and repeated subtraction.

Children use multiplication and division to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings or number lines. They also multiply and divide, using strategies such as the relationship between multiplication and division and repeated subtraction.

## During Reading (continued)

Investigation	Math Concepts
pp. 23–25: Invite a volunteer to read p. 23 aloud. Ask: <i>Can you imagine being made the ruler of a country at your current age? What kinds of things would you do for the people of your country?</i> Read p. 24 aloud. Ask: <i>Why do you think archaeologists lay out a grid before they dig?</i> Read p. 25 aloud. Say and then ask: <i>Modern engineers are still trying to discover how the ancient Egyptians cut and moved such large stones without complex machinery. How would you build a pyramid today?</i>	Children think about history as well as different scientific and engineering tools that may be relevant.
pp. 26–28: Read p. 26 together. Work with children to help them think about how they will approach the problem at the bottom of that page. Read pp. 27–28 aloud. Have a volunteer write a division sentence and a division equation to represent the problem. Talk about the different strategies that children might use. Then, find the answer together.	Children choose the best division strategy to solve a particular problem. They fluently write a division sentence and a division problem.
pp. 29: Read p. 29 together. Provide materials so that children can experiment with embalming an apple. Have them describe what they do step-by-step. At the end of a week, have them unwrap the apple and note their observations.	Children follow directions and list step-by-step procedures. They write detailed observations.

## After Reading

Ask children to restate the key ideas in the book.

Investigation	Understanding Math
Children write and illustrate a short story about an Egyptian king or queen and create an array or a number line with repeated subtraction to illustrate and solve a division problem they create in their story.	Children understand division concepts and how to apply properties of operations like multiplication and repeated subtraction.
Children track the books and the total pages they read over a month. Then, they use division to find out how many pages they read each week. Children make a chart to show the information.	Children find a total and divide the sum into equal parts. They also record information.