DISCOVERING THE MATH: BOOK GUIDE



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Do you like blueberry pie? Mama Bear's four cubs sure do! They want Mama Bear to make one, but first they have to collect the ingredients from the forest. One of the four cubs gets distracted and does not collect her fair share. What do you think will happen with the pie?

Ages: 5 to 8 years

ATOS Reading Level: 3.0

Lexile: 510L

ISBN: 9780064467148

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A Fair Bear Share

Why did Mama Bear group the nuts, seeds, and blueberries by tens?

Topics: counting, place value, tens and ones, regrouping

Activities To Do Together:

Use the book A Fair Bear Share to explore place value.

While reading the book:

- Count with mama bear.
- Point out the groups of ten. Point out the ones. What do you notice about the piles of food.
- Estimate how many blueberries you think the cubs will pick.
- Do you think the three cubs will pick enough tp make the pie? Why or why not?

When you have finished reading the story try the following:

- Explore counting by dividing items into groups of ten.
- Talk about the pictures of piles of food you see in the book. Ask "Why do you think Mama Bear is separating the nuts into piles of ten?" "Do you think this is a good idea? Why or why not?"
- Count thirty-five pennies together. Then count the pennies again, but in a different way (by twos, fives or ?). Discuss which way was faster.
- Explore the value of coins by substituting a dime for ten pennies, and a nickel for five pennies etc.
- Give children the opportunity to explore counting by tens by using number lines, 100 charts, and 10 frames.
- Count large groups of objects. How do you like to count them? Are there other strategies you can use?
- How would you help mama bear gather the ingredients for the pie?



Questions for Mathematical Thinking:

- 1. Why do you think Mama Bear grouped the nuts, seeds, and blueberries by tens when she counted them?
- 2. When would you count objects by making groups of ten? When would it not make sense to use this strategy?
- 3. Do you notice a pattern in the way Mama Bear arranges the groups of ten? One way to describe the pattern is 4 on the bottom row, 3 on the next row, 2 on the next row, and 1 at the top. How else could you describe this pattern?
- 4. What is the next larger number of objects that could be arranged in a triangle? How does the pattern continue to grow? Is there a smaller number of objects that could be arranged in a triangle? Show me what you see.
- 5. What do you think a fair bear share means?
- 6. Regrouping is a strategy the bears use in the story to count. How can this be a useful strategy while counting?

Early Math Project Resources:

Visit <u>A Fair Bear Share</u> (countplayexplore.org/book/a-fairbear-share) to find activities and related Learning Foundations and California Mathematics Standards for this book.



Early Math Project

Vocabulary for Building Math Concepts: altogether, fair share, first, fourth, second, third

Spanish Title: Not available

Also available in: Braille

Related Books: Shark Swimathon by Stuart J. Murphy; Earth Day Hooray! By Stuart J. Murphy

This link to the <u>World</u> <u>Catalog</u> will help you find *book title* in the public library.



Math Connections:

Place value is foundational to children's early and ongoing success with mathematics. There are fun and simple ways to support understanding of place value. You can start with counting.

If your child is learning to count, provide them with lots of opportunities to become familiar with the counting sequence. Start by helping your child to learn the sequence of the numbers 0 to 5 and their corresponding values. As child learn their numbers, repeating and/or mixing up the number sequence is very common. Expect this to occur, it's part of the learning process!

Help your child become comfortable with the idea that numbers can be represented in many different ways. For example, the number five can be written as a word, as a numeral, as a group of five ones, or the five spots on a dice when a five is rolled. It's important for children to understand that numbers can be identified and represented in different ways. Make a game of showing your child a very small collection of objects and having them tell you what number is represented. For example, hold up four fingers to represent the number four or make a group of three acorns to represent the number three. Have fun looking for the numbers that appear all around us. Go on a scavenger hunt to find the number five. Look for different ways that the number two is represented. Find it as a written word and a numeral. Play a version of the game "Eye Spy" that goes like this: "I spy with my little eye, something that represents the number five." Take turns looking for the ways you see the number five represented around you - five fingers, five friends, or five trees at the park.

Talk about zero. It's an important number that represents the absence of something. You can reinforce this idea like this, "The park has four swings, but it has zero roller coasters" or "We have two cats, but we have zero giraffes."

Help your child to associate the name of a number with its actual value and to compare the value of numbers. With practice your child will become very familiar with the idea that five is more than two and six is less than nine. Becoming comfortable with the number sequence and the values of numbers from 0-9 supports is an important first step for understanding two-digit numbers.

Vocabulary for Extending Math Concepts: patterns, place value, regrouping, renaming

Vocabulary for Reading Comprehension:

cartwheels, proudly, raced, skipped









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The number system we use most commonly is based on the number 10. The numbers, 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 are used to represent all other numbers. Learning the order of these numbers, understanding how the values of these numbers compare to each other, and recognizing patterns that exist with numbers, demystifies the counting sequence and supports understanding of the value of numbers with more than one digit.

When children enter Kindergarten, they learn about the numbers 11-19, which are commonly known as the teen numbers. Talk with your child about the meaning of the word "teen." It means ten. It even sounds a little like the word 10. The first three teen numbers, eleven, twelve, and thirteen will likely take some special practice as they don't follow the same predictable pattern as is seen with the teen numbers starting with number fourteen. Talk with your child about how eleven means you have a group of ten and a single one. With the number 12, you have a group of ten and two ones. Ask your child how may groups of ones and tens are in the word thirteen. If they aren't sure, ask them if they hear any similarity between the first part of the word "thirteen" and the number three. Explore how the numbers from 11 to 19 are made up of one group of ten and some more ones. For example, the number 16 is made up of one group of 10 and six additional ones. Remind your child that when we talk about a group of 10 it means that we are talking about ten things. Write the teen numbers as mathematical equations using the number 10. If you a group of 15 objects, figure out how many groups of ten are in fifteen and how many ones. Have your child explain what they found out. Encourage them to create a drawing that shows the value of the number 15 and write an equation for the drawing together -15 = 10 + 5.

Learn to count by 10. Pay special attention to the numbers twenty and thirty because, like the numbers eleven, twelve, and thirteen, they don't follow the predictable pattern of numbers forty though ninety. Practice counting by ten with a collection of dimes. If your child does not have experience counting money or recognizing coins, show them the coins and explain that ten pennies have the same value as one dime.

When looking at two-digit numbers, help your child to understand that the number in the tens place is generally more important when comparing the values of two numbers. If comparing 39 and 61, the value of the three tens that are part of 39 are less than the value of the six tens that are part of 63. Therefore, sixty-three is the larger number.







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Have fun figuring out the largest number that you can make from two or three other numbers and figure out what each of the numbers stands for. For example, the combinations of numbers possible with the numbers 1 and 7 are 17 and 71. How many tens are in 17? In 71?

With practice, children begin to understand that the first digit in a two-digit number represents the amount of tens in the number. For example, in the number 36, three represents 3 groups of ten or thirty. Make a game out of figuring out what number is largest or smallest in a group of four two-digit numbers. Ask your child to teach you a strategy that can be used to figure out which of the following numbers has the largest value - 57, 38, 81, 19. Ask your child to teach you a strategy for figuring out which of the following numbers has the smallest value - 36, 31, 38, 33., ir

These types of explorations with base-ten and place value, are essential for success with all of the mathematical operations (+, -, x, /), decimals, proportional reasoning, and algebra.



