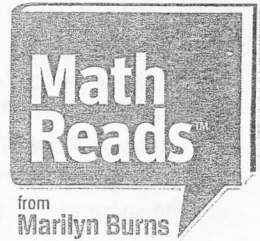
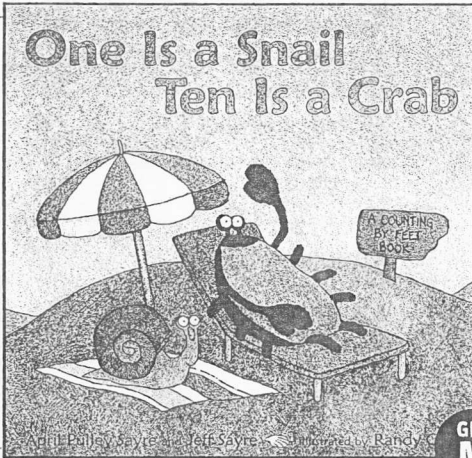


# One Is a Snail, Ten Is a Crab

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TOPICS	
Addition	Place Value



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This charming book counts by groups of feet—1 is a snail, 2 is a person, 3 is a person and a snail, and so on. After showing that 10 is a crab, the counting continues by multiples of 10 up to 100. Children delight in the humorous illustrations and predicting how numbers are represented. The book is ideal for building understanding of place value and representing numerical relationships with equations. Later in the year, you can revisit the book when introducing multiplication as equal groups.

### Standards for Mathematical Practice

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Attend to precision.

### Standards for Mathematical Content

- Operations & Algebraic Thinking
- Numbers & Operations in Base Ten

### Objectives

- Represent and solve problems involving addition.
- Add within 100.
- Understand place value.

### Getting Started

Before reading, show the book cover and ask the children, *What do you think the title means?* Point out the sign, “A Counting by Feet Book.” Ask them to predict what the illustrator could draw to show something on the beach that has 2 feet. (Possibilities: a person, a bird, two snails.) *To show 3 feet?* (Possibilities: three snails, one bird and one snail.) *What about 4 feet?* (Possibilities: a dog, a cat, a horse, two people, one person and one bird, four snails.) Ask, *How far do you think the author is going to count?* After the students give their ideas, tell them, *Let’s read the book and find out!* Read aloud the text.

## LESSON IDEAS

### Write Equations to Represent 8

Return to the page with “8 is a spider” on it and show it to the children. Ask them for other ways the illustrator could show 8 feet. Record their ideas as equations in two ways, first with words and then adding numbers:

$$8 = 4 \text{ people}$$

$$8 = 1 \text{ insect} + 1 \text{ person}$$

$$8 = 1 \text{ dog} + 2 \text{ people}$$

$$8 = 2 + 2 + 2 + 2$$

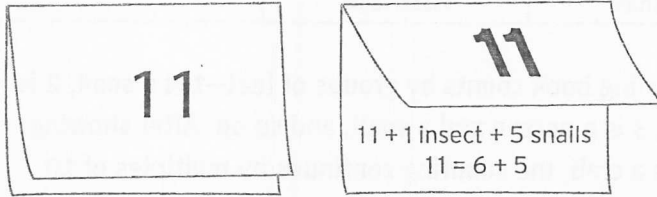
$$8 = 6 + 2$$

$$8 = 4 + 2 + 2$$

Repeat with 10 feet, continuing to write equations.

## Introduce Riddles

Tell the children that they will each write a Counting Feet riddle. Demonstrate by folding a piece of paper in half. Write the number 11 on the outside. Lift the flap and, on the bottom half of the inside, write two equations to show 11 feet, one with words and one underneath it with numbers. Don't let the children see what you write, but tell them that it's not the same as any of the examples on the board.



Then model for the children how they will present their riddles. Hold your paper so it is folded and the children can only see the number 11. Call on a child to guess what word equation you may have written. If the child's guess is correct, open your paper and show it to the class. If not, record the child's guess by writing two equations on the board. Repeat. If a third child doesn't guess correctly, then reveal what you wrote.

## Write and Present Riddles

Now have children each write a riddle. Either direct them to choose a number between 10 and 20, or between 10 and 100, whichever is more appropriate. Write these directions on the board:

1. *Fold your paper.*
2. *Pick a number and write it on the outside.*
3. *Write a word equation and a number equation inside.*

Give enough time for each child to complete steps 1–3. Then choose a child to present as you did before with your riddle. Remind them that there can be up to three guesses. A child who guesses correctly comes up to present. If no one guesses, select another child to present. Collect the riddles and have two or three children present each day over the next several days.

## Connect to Place Value

Show the children the cover of the book and ask them to think about why it shows 11. Represent 11 three ways:

$$11 = 1 \text{ crab} + 1 \text{ snail} \qquad 11 = 1 \text{ ten} + 1 \text{ one} \qquad 11 = 10 + 1$$

Ask, *What if the illustrator only drew crabs and snails? How would he show 15?* Write equations on the board:

$$15 = 1 \text{ crab} + 5 \text{ snails} \qquad 15 = 1 \text{ ten} + 5 \text{ ones} \qquad 15 = 10 + 5$$

Repeat with 23 and 57.

$$23 = 2 \text{ crabs and } 3 \text{ snails} \qquad 23 = 2 \text{ tens and } 3 \text{ ones} \qquad 23 = 20 + 3$$

$$57 = 5 \text{ crabs and } 7 \text{ snails} \qquad 57 = 5 \text{ tens and } 7 \text{ ones} \qquad 57 = 50 + 7$$

Continue with other numbers to reinforce place value.

It may help to write expanded expressions for the number of feet. For example: for 5 people, write  $2 + 2 + 2 + 2 + 2$  first and then 10. Also, for a simpler experience with numbers greater than 20, limit the numbers children choose for their riddles to multiples of 10—20, 30, 40, and so on—up to 100.

## Vocabulary

### Math Vocabulary

ENGLISH	SPANISH*
addition	<i>adición</i>
equation	<i>ecuación</i>
equals	<i>es igual a</i>
multiple	<i>múltiplo</i>
plus	<i>más</i>

### Context Vocabulary

ENGLISH	SPANISH*
insect	<i>insecto</i>
riddle	<i>adivinanza</i>
spider	<i>araña</i>



Ask children to figure out how many feet there are in their home and write two equations. For example,  $4 \text{ people} + 1 \text{ dog} + 1 \text{ cat} = 16$  and  $8 + 4 + 4 = 16$ . Also, have children take home their riddles to share.

\*Pointing out the Spanish cognates will help students make meaning-based connections.