

One is a Snail, Ten is a Crab

Overview

If one is a snail and two is a person . . . we must be counting by feet! Follow the sign to the beach for some mathematical mayhem. Whether you have one foot or ten, sit back on your beach blanket and enjoy counting big feet and small – on people and spiders, dogs and insects, snails and crabs – from one to one hundred!

One is a Snail, Ten is a Crab

April and Jeff Sayre's delightful children's book *One is a Snail, Ten is a Crab* offers an opportunity for students to develop their number sense and problem solving skills. After reading the book, students search for different ways of representing numbers as animal feet. Students make drawings showing their solutions and try to come up with as many different solutions as possible. This activity allows students to be creative and to learn to think more flexibly about numbers.

Levels Kindergarten through 3rd Grade

Topics Counting, Addition, Multiplication, Number Sense, Problem Solving

Goals

- Students will use addition and preliminary multiplication ideas to represent numbers in many different ways.
- Students will use drawings to show their solutions.
- Students will create word problems describing the situation shown in their drawings.
- Students will make their own number sentences involving addition and/or multiplication.

Bloom's Taxonomy Knowledge, Comprehension, Application, Analysis, Synthesis

Pre-requisite Knowledge Counting is the only essential pre-requisite. Additional knowledge that students may use includes awareness of number sentences, addition facts, and multiplication facts.

Preparation Time 5 minutes to gather materials

Activity Time 15 to 60 minutes

Materials and Preparation

- Copy of *One is a Snail, Ten is a Crab*
- Double dice (regular dice are fine)
- Drawing paper (5 to 10 sheets per participant)
- Journals, Pencils, Scotch Tape, Stapler
- Colored pencils and/or markers

Primary Sources

- April Pulley Sayre and Jeff Sayre. Illustrated by Randy Cecil. *One is a Snail, Ten is a Crab: A Counting by Feet Book*. Candlewick Press, Cambridge, MA; 2003.
- Original lesson plan created by Margaret Goldsmith, Math Curriculum Specialist, South Bend Community School Corporation, 2007.

Related Activities

- Regrouping in addition and subtraction
- Racing Dice
- Paying with Correct Change

Related Indiana Mathematics Standards

Specific Indiana Standards Include:

- K.1.4: Divide sets of ten or fewer objects into equal groups.
- K.1.6: Count, recognize, represent, name, and order a number of objects (up to 10).
- K.2.1: Model addition by joining sets of objects (for any two sets with fewer than 10 objects when joined).
- K.6.2: Use tools such as objects or drawings to model problems.
- 1.1.1: Count, read, and write whole numbers up to 100.
- 1.1.2: Count and group objects in ones and tens.
- 1.2.3: Show equivalent forms of the same number (up to 20) using objects, diagrams, and numbers.
- 1.2.5: Understand the meaning of the symbols $+$, $-$, and $=$.
- 1.3.2: Create word problems that match given number sentences involving addition and subtraction.
- 1.6.2: Use tools such as objects or drawings to model problems.
- 2.1.1: Count by ones, twos, fives, and tens to 100.
- 2.1.3: Identify numbers up to 100 in various combinations of tens and ones.
- 2.2.1: Model addition of numbers less than 100 with objects and pictures.
- 2.2.2: Add two whole numbers less than 100 with and without regrouping.
- 2.3.1: Relate problem situations to number sentences involving addition and subtraction.
- 2.6.2: Use tools such as objects or drawings to model problems.
- 3.2.2: Represent the concept of multiplication as repeated addition.
- 3.3.1: Represent relationships of quantities in the form of a numeric expression or equation.
- 3.3.2: Solve problems involving numeric equations.

One is a Snail, Ten is a Crab

Activity 1 (10 points)

- In your journal, write today's date and the title of the activity (One is a Snail, Ten is a Crab)
- Read *One is a Snail, Ten is a Crab*.
- In your journal, explain what the book is about.
- The book gives two different ways to represent 30. What are the two ways? Why does that make sense?
- Here is a story problem for "30 is three crabs".

There are three crabs playing Limbo. Each crab has 10 legs. How many legs do the three crabs have altogether?

- In your journal, write a story problem for "30 is ten people and a crab".
- Here are two number sentences for "30 is three crabs".

$$30 = 3 \times 10$$

$$30 = 10 + 10 + 10.$$

- In your journal, write a number sentence for "30 is ten people and a crab".

Activity 2 (10 points)

- Roll a double die.
- The number on the outside die will be the tens digit and the number on the inside die will be the ones digit to make a two digit number. Record the number in your journal.
- In your journal, make a list of at least 5 different combinations of creatures with that number of total feet.
- Choose one of your combinations. On a piece of drawing paper, create a page for your number in the style shown in the book. Include a picture that shows all the feet involved. Tape this page into your journal (you can fold it in half and then tape one edge in the binding so that the drawing folds out). Write a sentence on your picture in the manner shown in the book.
- In your journal, write a story problem and a number sentence for your picture.

Activity Reflection (5 points)

Answer the following questions in your journal.

- Rate this activity. What parts did you like or not like?
- What math concepts did you use during this activity? What did you already know that helped you?
- Did you learn anything new during this activity? What did you learn?
- Do you have any other comments about this activity?

Extra for Experts

- (5 points) Choose any two digit number. List ALL of the ways you could use snails, people, dogs, insects, spiders, and crabs to total that number. Explain how you know you found ALL of the combinations. You can do this for as many different numbers as you wish.
- (15 points) Make your own picture book like *One is a Snail, Ten is a Crab* using drawing paper stapled together. Include at least 5 different pages in your book with numbers not included in *One is a Snail, Ten is a Crab*.
- (15 points) Write a quiz for a friend that includes 5 story problems related to this book. Trade quizzes with your friend. Solve each problem and write a number sentence that shows your work. Write both the quiz you made up and your solution to your friend's quiz in your journal.
- (10 points) Help a younger student to do Activity 1 or Activity 2. You must work with the student through the whole process to get the points. If you help the student with both activities, then you can get 20 points total.