



**SPARROW JACK**  
by  
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Jack solved the problem of the inchworms by importing sparrows from his home country, England. Thanks to him, we now have these wonderful birds here in our country. Jack was a problem solver.

To transition to these activities tell the children that in the story the inchworms created the problem but that they are going to use inchworms to solve problems.

**MATERIALS:** Activity#1: inchworm sheet, Classroom Object Measurement sheet, scissors, chart paper, two sets of objects (pencil, paperclip, chalk, chalkboard eraser, marker, pen, scissors), crayons or colored pencils; Activity #2: cardboard paper towel tube, rulers, scissors, stapler, pipe cleaner, black marker, green tempera paint (optional).

**ACTIVITIES:** Activity#1 -- This activity allows children to use non-traditional units of measurement. Use the inchworms on the Inchworms sheet. Tell the children that instead of using their rulers and measuring in inches, they are going to be measuring in "inchworms". After they've cut the inchworm strips and segments apart, have them lay the "worms" and "worm parts" end to end until they reach the end of the item they are measuring. Talk about the relative value of the pieces, for example, three  $1/3$ s = 1 worm. Ask which is smallest, which is the largest. Have your students use their inchworms to complete the Classroom Object Measurement sheet. Encourage them to experiment with different ways to get the most accurate measure. After they are all finished, ask if they could combine any of their parts. As a class, create an equivalent fraction chart [Note: these inchworm activities were excerpted and adapted from an article in Teaching Children Mathematics ("Inchworm and a Half: Developing Fraction and Measurement Concepts Using Mathematical Representations", January 2004, pp. 241-252.)]

Activity#2: **ART CONNECTION USING MEASUREMENT** Make an inchworm from an empty paper towel tube. Follow the directions on the next page.

**STANDARDS:****BSL:** 1.1, 1.2, 1.3, 1.5, 1.8, 2.1, 11.3, 12.1, 12.3, 12.8, 12.9, 12.11**NCTM:** 1a, 1c, 1d, 2a, 3b, 4b, 4e, 10a, 10b, 10c, 10d, 12a, 12b, 12c, 12d**SCS:** A1, H1, H3

Gerstein, Mordicai. Sparrow Jack. [\* Geri NY: Farrar, Straus and Giroux, c2003. ISBN#0-374-37139-3 In 1868, John Bardsley, an immigrant from England. brought 1,000 sparrows from his home country back to Philadelphia, where he hoped they would help save the trees from the inch-worms that were destroying them. Based on a true story.

Instructions for paper towel inch worm:

- Squeeze an empty paper towel tube flat and cut into 4 even sections. Each section will be approximately 3.5 cm.
- Cut three of the sections in half down the middle of the tube. Make two holes on the top of the whole section.
- Staple cut sections together to make of body with six segments. Staple whole section on one end.
- Use marker to make face and two pipe cleaners for antennae.
- Paint if desired.

Adapted from Alphabet Art by Judy Press, pp.44-45.

Some suggestions for an equivalent fraction chart:

- $\frac{1}{2} + \frac{1}{2} = 1$
- $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$
- $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$
- $\frac{1}{4} + \frac{1}{4} + \frac{1}{2} = 1$
- $\frac{1}{2} + \frac{1}{4} + \frac{1}{4} = \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$

## CLASSROOM OBJECT MEASUREMENT

Draw a picture of the classroom object and record your measurement on the line.

1. pencil \_\_\_\_\_ inchworms

2. paper clip \_\_\_\_\_ inchworms

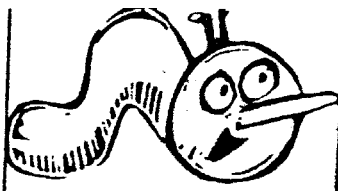
3. chalk \_\_\_\_\_ inchworms

4. chalkboard eraser \_\_\_\_\_ inchworms

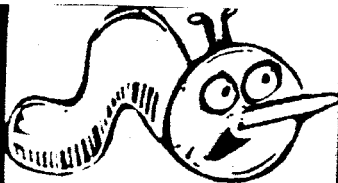
5. marker \_\_\_\_\_ inchworms

6. pen \_\_\_\_\_ inchworms

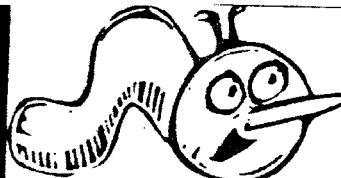
7. scissors \_\_\_\_\_ inchworms



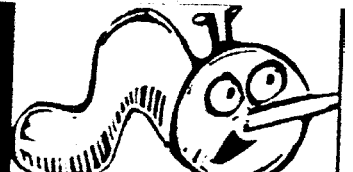
$\frac{1}{4}$  WORM



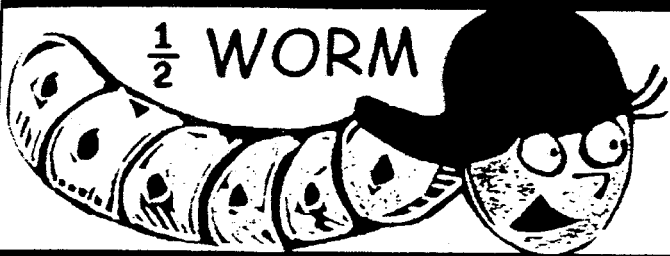
$\frac{1}{4}$  WORM



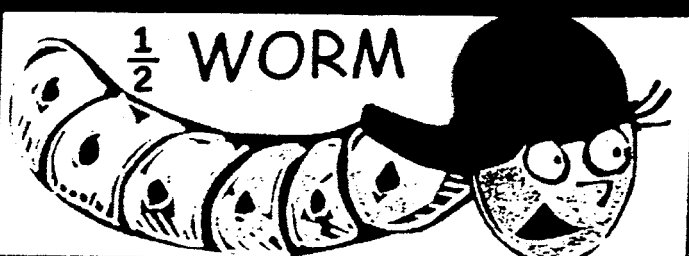
$\frac{1}{4}$  WORM



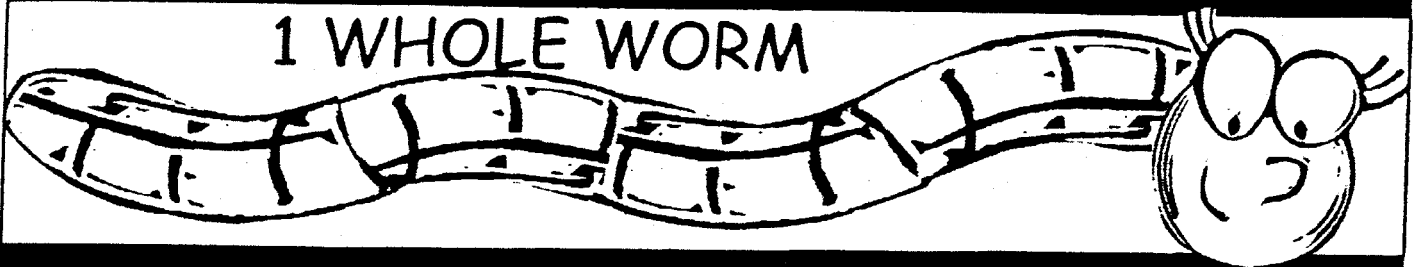
$\frac{1}{4}$  WORM



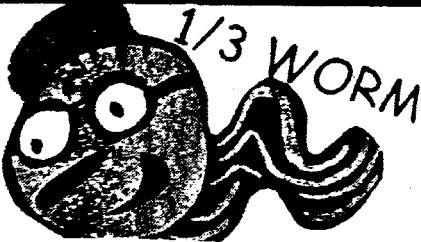
$\frac{1}{2}$  WORM



$\frac{1}{2}$  WORM



1 WHOLE WORM



$\frac{1}{3}$  WORM



$\frac{1}{3}$  WORM



$\frac{1}{3}$  WORM