LESSON 4

Objective

Recognize fractions as parts of a whole.

Common Core State Standards

- **2.G.3** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves, thirds, half of, a third of,* etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

Geometry

Recognizing Fractions

Introducing the basic concept of fractions to children helps them develop a foundation for deeper learning in years to come. Children need to recognize when items or sets have been divided into equal parts and to become familiar with some of the basic terminology related to simple fractions. It is important for children to understand that *equal parts* means that each person gets exactly the same amount when splitting.

Try It! *Perform the Try It! activity on the next page.*

Talk About It

Discuss the Try It! activity.

- **Ask:** *How many yellow Cuisenaire® Rods make a train that is just as long as the orange rod? What fraction of the orange rod is one yellow rod?* Guide children to understand that a yellow rod represents one-half of the orange rod.
- **Ask:** *How many red rods equal one dark green rod? What fraction of the dark green rod is one red rod?* (one-third) *How many thirds make up one dark green rod?*
- **Ask:** *How many white rods equal one purple rod? What fraction of the purple rod is one white rod?* (one-fourth) *How many fourths make up one purple rod?*

Solve It

With children, reread the problem. Then have children find how many green rods make up one blue rod. Have them draw a blue rod with three green rods below it to show their answer to the problem.

More Ideas

For other ways to teach about fractions as parts of a whole—

- Have children make Snap Cubes® trains of two, three, or four cubes. Then ask them to identify the parts that make up the whole train. For example, for a train of four cubes, ask children how many parts make up the whole. Ask them if the parts are fractions. Help them understand that one cube represents one-fourth of a four-cube train.
- Have pairs of children work with Pattern Blocks. Instruct them to select a large hexagon. Then have them see how many triangles it takes to cover the surface of the larger shape. Repeat using several combinations of large and small shapes. Discuss that the small shapes can be used to show fractions of the larger shapes.

Formative Assessment

Have children try the following problem.

Put an X under the circle that shows $\frac{1}{3}$.

A. 

B. 

C. 

Try It! 20 minutes | Groups of 4

Here is a problem about recognizing fractions as part of a whole.

Mario's class is using Cuisenaire Rods to learn about fractions. How can Mario find the number of light green rods that make up one blue rod?

Introduce the problem. Then have children do the activity to solve the problem. Explain that the word *fraction* means equal parts or pieces of a whole. Tell children that if a whole cake is cut into 8 equal pieces, then each piece is a fraction of the whole cake. Distribute Cuisenaire Rods, worksheets, and crayons to children.

Materials

- Cuisenaire® Rods (1 set per group)
- Rod Worksheet (BLM 17; 1 per child)
- crayons (1 crayon for every rod color per child)

1. Hold up an orange rod and explain that it represents one whole unit. Ask children to color the first rod on the Rod Worksheet to show one whole. This means that they will color the whole rod the same color. Then ask children to make a train of yellow rods that is the same length as the orange rod.

2. Explain that the small yellow rods represent fractions of the orange rod. Tell children that since two yellow rods equal one orange rod, each yellow rod is one-half of the whole. Have children color the second rod on the Rod Worksheet to show one-half of the whole.

3. Repeat using other rods to represent whole units. Have children practice finding halves, thirds, and fourths, and representing them on the Rod Worksheet. **Ask:** *How many light green rods make up a blue rod?*

⚠ Look Out!

Children may try to use a variety of colors to make equivalent trains. Remind them that fractions are equal parts of the whole, and they must use the same color to represent equal parts.

Answer Key

Use Cuisenaire Rods. Make each model. Fill in the blanks. (Check students' work.)

1. brown

purple

2 purple rods = 1 brown rod

1 purple rod equals $\frac{1}{2}$ of a brown rod.

2. blue

green

3 green rods = 1 blue rod

1 green rod equals $\frac{1}{3}$ of a blue rod.

Use Cuisenaire Rods. Use the rods named. Draw the model. Fill in the blanks.

3. green and dark green

1 green rod equals $\frac{1}{2}$ of a dark green rod.

4. red and brown

1 red rod equals $\frac{1}{4}$ of a brown rod.

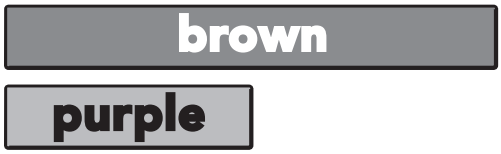
Answer Key

Challenge! If it takes 3 rods to equal one whole unit, what part of the whole is the smaller rod?

Challenge: $\frac{1}{3}$

Name _____

Use Cuisenaire Rods. Make each model. Fill in the blanks.

1. 

_____ purple rods = 1 brown rod

1 purple rod equals _____ of a brown rod.

2. 

_____ green rods = 1 blue rod

1 green rod equals _____ of a blue rod.

Use Cuisenaire Rods. Use the rods named. Draw the model. Fill in the blanks.

3. green and dark green

1 green rod equals _____ of a dark green rod.

4. red and brown

1 red rod equals _____ of a brown rod.

Name _____

Challenge! If it takes 3 rods to equal one whole unit, what part of the whole is the smaller rod?

BLM 17

Rod Worksheet

Name _____