

Robot

Purpose

Students will build a pattern block robot and, using two colors to color it, will describe a subset (by color) as “__ out of __ parts” and write the fraction.

Materials

For the teacher: overhead projector, overhead pattern blocks

For the students: pattern blocks, blank paper, crayons, copies of Black Line Master (BLM) *Shape Robots*

Activity

A. Introduction

1. Model building a robot using the same size/shape pattern blocks (not more than eight).
2. Trace around each pattern block used for the robot.
3. Use only two colors to color the robot.
4. Ask students: “How many parts did I use to make the robot? How many parts are [insert color]?”
5. Write the sentence: _____ out of _____ parts are red (or color used) and _____ out of _____ parts are blue (or other color).
6. Write the fractions on the board.

B. Student Activity

1. Have the students build two robots and write the appropriate “out of part” sentences and fractions for each one.
2. Have students complete the BLM *Shape Robots*.



connecting across the curriculum

English/ Language Arts

Have students write their own fraction problems. For example: “I invited six people to my birthday party. Two of them were boys. What fraction of the group were boys?”



MEETING INDIVIDUAL NEEDS


For students having trouble with this skill, use two-color counters. Have the student place four counters so that the color red is facing up. Have the student turn one counter over so that the yellow is facing up. Ask: “How many counters do we have? How many are yellow?” Ask the student to say an “out of part” statement. Show that the fraction is $\frac{1}{4}$.


Standards Link 1.1.8

Questions for Review


Basic Concepts and Processes


During the activity, use six crayons of two different colors to discuss the following questions with your students to gauge their understanding of the Standard Indicator:

 What are the “out of part” sentences?

 What tells you the “out of” part?

 What are the two numbers that name the “out of” part?

 How do you know how the fraction is written that names that part?

 How did you decide to make an “out of” statement and to write the fraction?

Name: _____

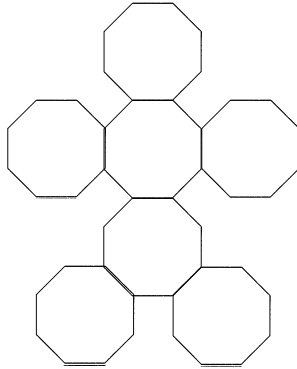
Shape Robots

1.

_____ out of _____

parts are _____.
(color)

The fraction is:

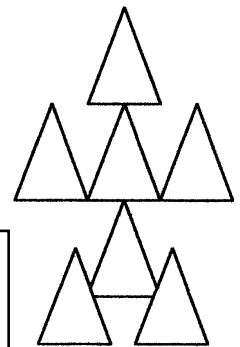


2.

_____ out of _____

parts are _____.
(color)

The fraction is:

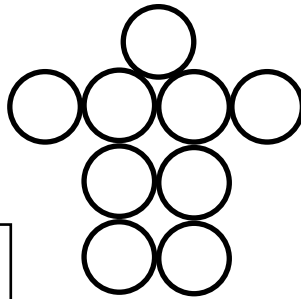


3.

_____ out of _____

parts are _____.
(color)

The fraction is:

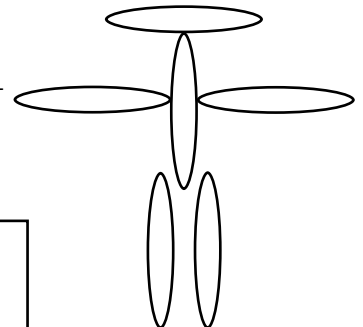


4.

_____ out of _____

parts are _____.
(color)

The fraction is:



Shape Robots

Teacher Directions

Provide students with copies of the BLM *Shape Robots*. Have the students color in each robot using two different colors. Tell the students to write the appropriate fraction and “out of” sentence for each robot.

Answer Key

Student answers will vary. Check to make sure students’ fractions and statements match their robots.