

Comparing Boxes

Purpose

Students will identify congruent faces on boxes and classify the boxes into groups of cubes and rectangular prisms.

Materials

For the class: rectangular prism-shaped and cube-shaped boxes (at least 6 boxes of each shape), 3 posterboard rectangles (2 congruent and 1 non-congruent), rulers (enough for 1 for each group of students)

Activity

A. Pre-Activity Preparation

Have students bring in empty rectangular prism-shaped boxes such as cereal boxes, tissue boxes, and shoeboxes. Cube-shaped boxes are harder to find. You may want to bring these in yourself or make some from thin cardboard.

B. Pre-Activity Discussion

1. Define and show examples of a rectangular prism and cube using the boxes collected.
2. Define congruent shapes.
 - a. Show two congruent rectangles. Discuss the properties of the rectangles that make them congruent.
 - b. Show a rectangle that is NOT congruent to the first two. Discuss why it is NOT congruent.
3. Explain to the students that they will be looking for congruent shapes (and sides) on the boxes and making observations about the boxes.

C. Group Activity

1. Divide the class into groups of four or five students.
2. Give each group at least one rectangular prism-shaped box, one cube-shaped box, and a ruler.
3. Have students measure the faces of the boxes to determine which ones are congruent.
4. Have them classify the boxes into cubes and rectangular prisms.



INCORPORATING TECHNOLOGY

Have students explore shapes in the environment by visiting www.sci.mus.mn.us/sln/tf/i/icshapes/icshapes.html. At the bottom of the web page, have students click on a shape to view various geometric shapes in the environment. Have them submit a picture of their own.



MEETING INDIVIDUAL NEEDS


For students who are interested in a more challenging geometry activity, purchase or borrow from the library a book on origami. Have the students choose paper objects to create from the book. Have the students identify the shapes on the objects they create.


Standards Link
2.5.1


Questions for Review


Basic Concepts and Processes


During the activity, discuss the following questions with your students to gauge their understanding of the Standard Indicators:

 Which sides of the boxes are congruent?

 How did you decide that they were congruent?

 Which boxes are rectangular prisms/cubes?

 How do you know that it is a rectangular prism/cube?

 What shape is each of the sides of the box?
