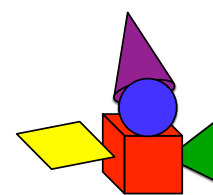


Shape It Up!



Strands:

Number & Quantity

Algebra

Functions

Geometry

Statistics & Probability

Materials:

- 2D and 3D shapes, 1 of each type of shape per player
- 2D and 3D Shapes page, cut into cards

Where:

Outside

Inside

On-line

On-site



What shapes can you find around your house? How are they the same? How are they different?

Set-Up:

- Ask players to gather 2-dimensional and 3-dimensional shapes from around the house. Some suggestions follow:

Cube:

blocks (children's toys)

Rectangular Prism:

cereal box
macaroni & cheese box
jewelry gift box
spaghetti box

Cone:

party hat
funnel
snow cone cup

Cylinder:

paper towel/toilet paper roll
oatmeal container
pill bottle

Triangular Prism:

Toblerone candy container

Triangular Pyramid:

Construct with building toys or paper

Square Pyramid:

Ferraro Rocher candy box (at holidays)

Sphere:

balls

Hemisphere:

bowl
Slurpee cup lid
soup ladle
measuring spoon

- Without grouping by shape, place items in the middle of the players. There should be at least one of each shape per player.
- Choose a leader who is familiar with all of the shapes.

Object of the Activity: Recognize three dimensional shapes and the shapes that make up their surfaces.

Leading the Game:

1. Pick up a shape and ask players to find a shape like the one you're holding.
2. Ask each player to state, one at a time, a property of the item they chose that led them to think it was the same shape as your shape. Players should state different properties rather than repeat another player's choice. Similarities should be meaningful observations about the shape's properties, rather than having to do with properties such as color or use.
3. Ask players if they know the shape's name, how many sides it has, what other features the shape has, what the shape of the faces are, etc.
4. Ask a player who has picked up a shape that is incorrect to state a similarity their shape has with yours. If that is not possible, ask the player to state a difference between their shape and yours.
5. **Scoring:** Each player who states a meaningful property earns a point.
6. Replace the shapes randomly in the center of the group and play again.

Think About It:

1. Which shapes are similar? Why do you think so?
2. Which items should not be grouped together by shape? Why do you think so?

Variation:

Line Them Up: After three or more rounds of Shape It Up!, ask players to line up the shapes in a physical bar graph according to their three dimensional shape names. Use the 3D shape cards to label the horizontal axis before students place the shapes. Repeat using the 2D shape cards and names. Ask students how the bar graphs changed.

Shape Relay: Arrange the shapes randomly at one end of a room. Ask players to arrange themselves into same size groups. Give each group a stack of 2D or 3D Shapes Cards. Players in the same group form a single file line. When told to begin, the first player in each line takes a shape card from their group's stack. They run to the end of the room, pick up a shape that fits the card, then bring the shape back to their group. If the group agrees the shape is correct, the next player takes a card and repeats the process. If the shape does not fit the card, the same player must take the shape back to the random collection and choose another shape. The first team to gather a shape for each card successfully wins the game.

Snack Sort: Gather different types of snacks that have 2D or 3D shapes to fit one of the Shapes Playing Mats. You can also cut snacks (veggies, fruit, cheese) into shapes that match the shapes on the mat. Provide each player the same 2D or 3D Shapes Playing Mat. In turn, each player chooses a snack and places it on one of the shapes on the player's mat. Players get to eat any snacks that match the shapes correctly.

Helpful Hints:

- It is important to ask open-ended instead of yes or no questions. For instance, if you hold up a sphere and a player calls it a circle, ask the player (or another player) to find another circle among the items. Ask how the two items are the same and how they are different. Drawing a circle on a piece of paper can confuse students who do not see 2D and 3D drawings of objects as different.
- Ask players about the shapes that make up the faces of three-dimensional objects, the number of those faces a 3D object has, and the side lengths. For example, to distinguish a cube from a more general rectangular prism, players should notice that all of the faces are identical in a cube and that some faces are different sizes in a rectangular prism that is not a cube.