



Children's Museum of Houston

Shape & Solid Exploration

Play a game to determine the mystery solid.

Materials:

- Different shapes and solids (Circles, squares, cubes, cylinders, etc. You can find most of these shapes in your pantry.)
- Blank 3x5 note cards
- Markers

Procedure:

1. Make your playing cards by writing the hints and drawing the appropriate pictures on your note cards.
2. Look and talk about the different shapes and solids (Number of sides, faces, etc.).
3. Post the vocabulary list and discuss the meaning of each word with the group. Draw pictures if necessary to illustrate certain concepts.
4. Divide students into groups. Each group will need its own set of shapes, solids and playing cards.
5. One student picks a card from the pile but keeps it hidden from everyone else.
6. The student should read the description without saying what it is.
7. Other students listen to the clues and try to determine the mystery shape or solid.
8. The first person to find the correct solid gets to pick the next card.

Questions to Ask:

- What shapes can you find on that solid?
- Which shapes or solids have similar characteristics?
- Can you give a clue that allows the guessers to guess on the first try?

Background:

It is important for children to be able to describe a shape with correct math vocabulary and to be able to visualize a shape in their head. We have to describe shapes and visualize in our head when we figure out how to put together furniture or when we navigate a map. For further exploration, find which shapes will stack, slide, and roll. Trace the different solids to see what kind of shapes you can make. For more fun with solids, build something with blocks and then draw the building.

Hints for Playing Cards

1. Shape with three sides and three vertices. (picture of triangle)
2. Shape with four sides that are the exact same length. (square)
3. Shape with four sides. Two sides are longer than the other two sides. (rectangle)
4. Shape with no sides or vertices. (circle)
5. Solid with 6 faces, 12 edges, and 8 vertices. (rectangular prism or cube)
6. Solid with 2 bases and 1 lateral, or curved, surface. (cylinder)
7. Solid with 1 base and a point at the top called an apex. (cone)
8. Solid with 5 faces (3 square faces, 2 triangular faces), and 6 vertices. (triangular prism)

Shapes and Solids Vocabulary Chart

Word	Definition
Apex	The highest point; the point at the top of a shape.
Base	The bottom face of a solid.
Edge	Where two surfaces join.
Face	A flat surface of a three-dimensional shape.
Side	The line or curve on the edge of the shape joining its vertices (corners).
Vertex, Vertices	A point where surfaces meet; a corner.