

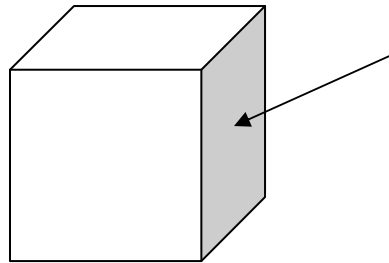
3-D Geometry

Vocabulary

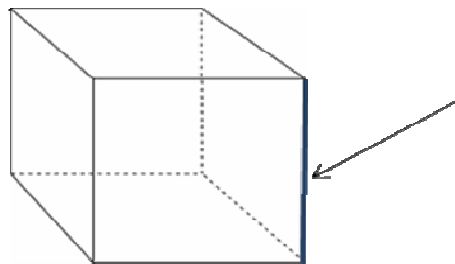
Solid Shapes- shapes that have length, width, and height

We describe solid shapes by telling about the faces, edges, and vertices.

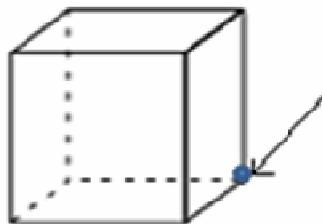
Faces- the flat surfaces of a solid object



Edges- the line on a solid object where two faces meet.



Vertex (or vertices)- the point made when three edges meet.



Some shapes can roll and some shapes can only slide.

Shape #1: You will need 12 toothpicks and 8 gumdrops.

Name of shape created? _____

How many **faces** does this shape have? _____

How many **edges** does this shape have? _____

How many **vertices** does this shape have? _____

Draw a real world example of this shape.

Shape #2: You will need 4 whole and 8 half straws, and 8 gumdrops.

Name of shape created? _____

How many **faces** does this shape have? _____

How many **edges** does this shape have? _____

How many **vertices** does this shape have? _____

Draw a real world example of this shape.

Shape #3: You will need 8 toothpicks and 5 gumdrops.

Name of shape created? _____

How many **faces** does this shape have? _____

How many **edges** does this shape have? _____

How many **vertices** does this shape have? _____

Draw a real world example of this shape.

Shape #4: You will need a small piece of clay. Then listen to your teacher.

Name of shape created? _____

How many **faces** does this shape have? _____

How many **edges** does this shape have? _____

How many **vertices** does this shape have? _____

Draw a real world example of this shape.

Shape #5: You will need a small piece of clay. Then listen to your teacher.

Name of shape created? _____

How many **faces** does this shape have? _____

How many **edges** does this shape have? _____

How many **vertices** does this shape have? _____

Draw a real world example of this shape.

Teacher Notes:

A suggestion of how to do shapes 1-3

Say: Let's make our first shape and see if anyone can guess what shape it is and what shapes make it up.

Activity: Do not tell the students what they are making. Ask the students to get out 8 gumdrops and 12 gum drops or marshmallows.

Guide: First, make two square shapes connecting the gumdrops with the toothpicks. Now there are two separate squares. Place the remaining four toothpicks in each of the gum drops facing up toward the ceiling. Last, take the remaining square and connect it to the top of the toothpicks that are pointing straight up.

Follow up: Ask: Can anyone name this shape? (Cube) What face make up the cube? (square) How many edges does the cube have? (12) How many vertices does this shape have? (8)

Shape 2 (rectangular prism)

Shape 3 (pyramid)

Possible Directions for shape 4&5

Focus: Let's make our fourth shape, which is like a circle in 3D. Do you think we can make this shape out of gum drops and toothpicks?

Activity: Give each student a small piece of clay. Each student rolls a small piece of clay. Each student then rolls a small piece of clay in their hands to form a small ball.

Follow up: Can anyone name this shape? (sphere) What shape make up the sphere? (none, it is a curved surface) How many corners does the sphere have? (0) How many edges does the sphere have? (0) Can anyone give any real world examples starting with our classroom? Now can anyone give examples from outside the classroom?

Do the same procedure for the next shape. (cylinder)