

Read About How To Create New Shapes From Existing Ones

WHAT IS CREATING NEW SHAPES FROM EXISTING ONES?

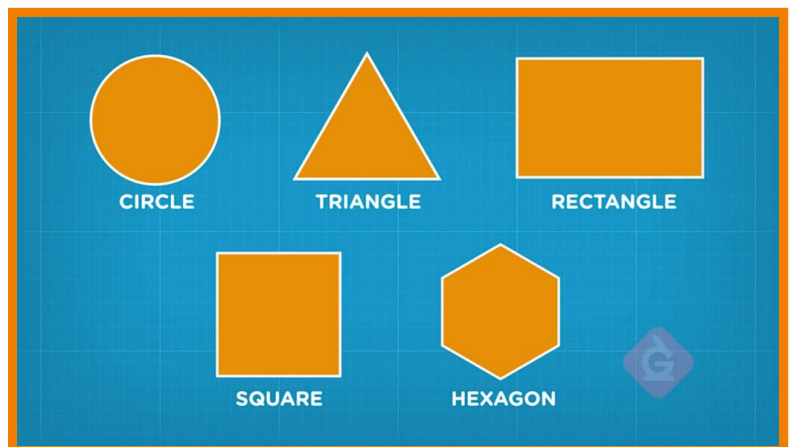
You can put shapes together to make a new shape. You can use flat shapes to make new flat shapes and new solid shapes.

To better understand how to create new shapes from existing ones...

LET'S BREAK IT DOWN!

Review flat shapes.

Circles, triangles, rectangles, squares, and hexagons are all flat shapes. A circle is a round shape with no sides or corners. A triangle has 3 sides. A rectangle has 4 sides and 4 square corners. A square is a special type of rectangle with all sides the same length. A hexagon has 6 sides.



Make new shapes out of pizza triangles.

You have special pieces of pizza shaped like triangles. You can put shapes together to make a new shape. You can put 2 of these triangles together to make a square. You can put 4 of these triangles together to make a rectangle.



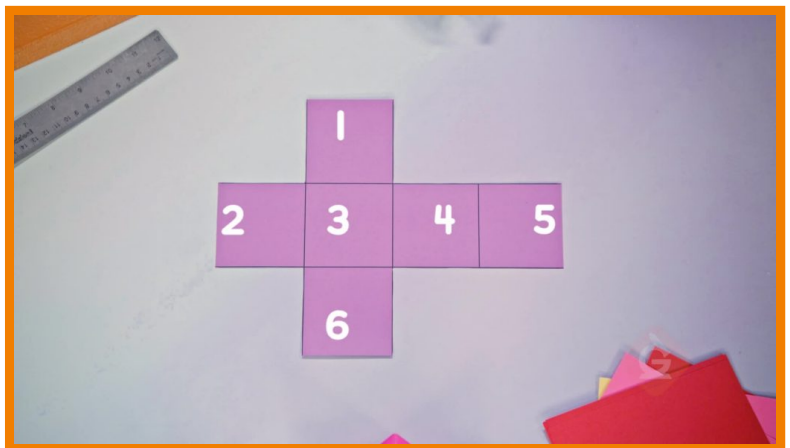
Make new shapes out of quilt patches.

You have quilt patches that are squares and triangles. What shapes can you make? You could put 1 square and 2 triangles together to make a new shape, called a trapezoid. Then, you could put two trapezoids together to make another new shape, a hexagon.



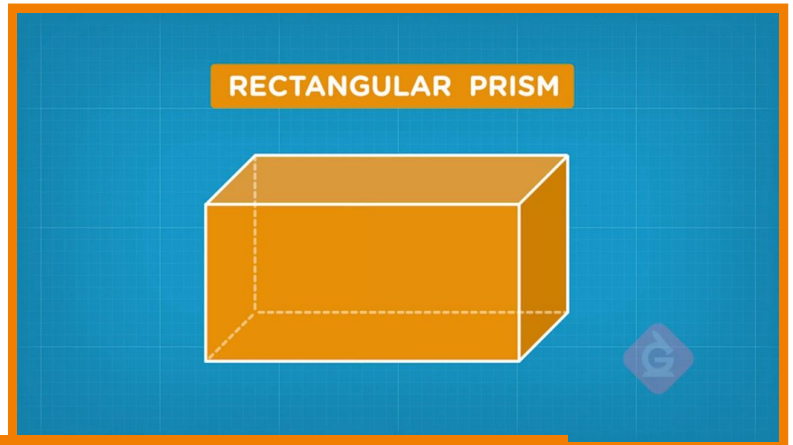
Make a solid shape out of 6 squares.

A flat shape is made up of 6 squares. If you fold it up, what shape do you have? You have a cube. It is a cube because it is not flat and it has 6 square faces.



Make a new shape out of 2 cubes.

You have 2 cubes. What new shape can you make if you combine the cubes?
The new shape has 6 rectangular faces, so it is a rectangular prism.



CREATE NEW SHAPES FROM EXISTING ONES VOCABULARY

2D

2D stands for two-dimensional. Two-dimensional shapes are flat, like squares and circles.

3D

3D stands for three-dimensional. Three-dimensional shapes are solid, like cubes and cylinders.

Cube

A solid shape with six square faces

Circle

A flat shape that is round with no sides or corners.

Triangle

A flat shape with three sides.

Rectangle

A flat shape with four sides and four square corners.

CREATE NEW SHAPES FROM EXISTING ONES DISCUSSION QUESTIONS

[Hold up or draw two identical right triangles with all three sides of different lengths.] How can you use these shapes to make a rectangle?

Put the two triangles next to each other with the long sides together.

[Use the rectangle created in the previous question and another identical rectangle.] How can you use these two rectangles to make a new rectangle?

Put the two rectangles together. You can put the long sides together or the short sides together.

[Hold up or draw three identical equilateral triangles.] How can you use these three shapes to make a trapezoid?

Put the triangles together. The middle triangle is upside-down compared to the other two triangles.

[Hold up or draw six rectangles that could form a rectangular prism. To make sure they could form a rectangular prism, you can use a cereal or tissue box as a model. Or, make two rectangles with dimensions $a \times b$, two with dimensions $a \times c$, and two with dimensions $b \times c$.] What 3D shape can you make from these six shapes?

A rectangular prism.

[Hold up or draw three identical cylinders.] How can you use these shapes to make a new cylinder?

Stack all three cylinders together so the circular faces line up.
