

Grade 1 · 2D and 3D Shapes · Lesson

Common Core 1.G.A.1, 1.G.A.2 · mathovore.fr

A shape is described by attributes that stay the same, such as the number of straight sides and corners. A triangle always has 3 sides and 3 corners. Color, size, and the way a shape is turned do not change its name. Shapes can be put together to make new shapes, like two squares making a rectangle.

Grade 1 Common Core: 1.G.A.1 · 1.G.A.2

Key facts:

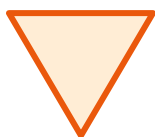
- A triangle has 3 straight sides and 3 corners and is closed.
- A square and a rectangle each have 4 sides and 4 square corners.
- Color, size, and turn are not defining attributes.
- A cube, a cylinder, and a cone are 3D shapes.
- Shapes can be put together to make a new shape.

What is a defining attribute?

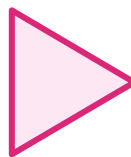
Every shape has parts we can count. A **side** is a straight edge. A **corner** is where two sides meet. A defining attribute is a fact that must be true for a shape to have its name. A triangle always has 3 straight sides and 3 corners, and it is closed with no gaps.



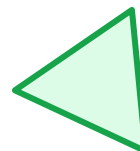
A



B



C



D

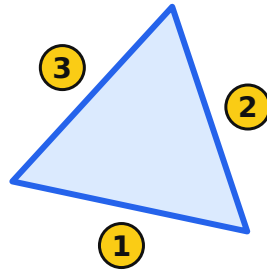
Four triangles. The colors and turns are different.

Not defining

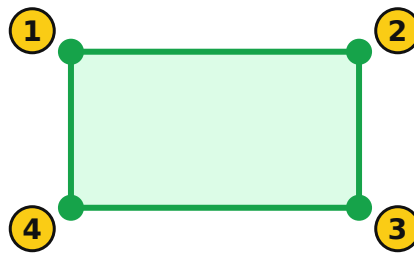
Color, size, and which way a shape is turned do not change its name. A small orange triangle and a big pink triangle are both triangles.

How do you count sides and corners?

Touch each side once and count. Do the same for each corner. Every corner of a triangle sits between 2 sides.



A triangle has 3 sides.

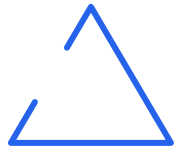


A rectangle has 4 corners.

Shape	Sides	Corners	Defining attribute
Triangle	3	3	closed, 3 straight sides
Square	4	4	4 equal sides, 4 square corners
Rectangle	4	4	4 straight sides, 4 square corners
Circle	0	0	round and closed, no straight sides

How do you know a shape is not a triangle?

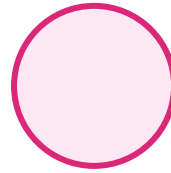
Check the attributes. If a shape has a gap, it is open, so it is not a triangle. If it has 4 sides, it is not a triangle. A circle has no straight sides at all.



A



B

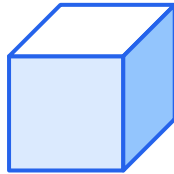


C

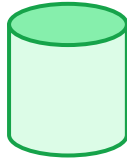
None of these is a triangle.

What are the 3D shapes?

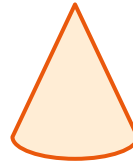
A cube is shaped like a number cube. All of its flat sides are squares. A cylinder is shaped like a can. It has two flat circles. A cone has one flat circle and a pointed top. A box looks like a cereal box.



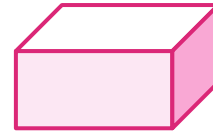
cube



cylinder



cone



box

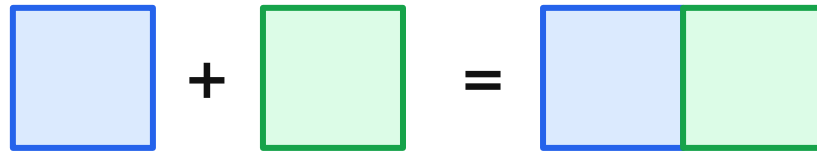
Four 3D shapes.

How do you put shapes together?

Slide the shapes so they touch. Do not let them overlap. Then name the new shape and count the pieces.

1. Choose the shapes.
2. Slide them together along a side.
3. Name the new shape.
4. Count the pieces.

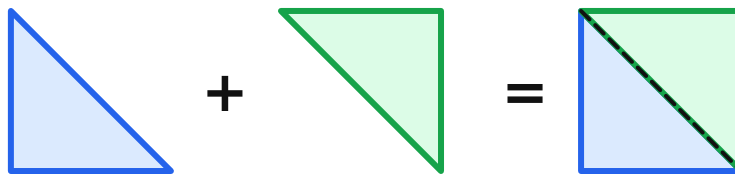
Example. Two squares of the same size touch along one side. They make a rectangle. Two triangles of the same size can make a square.



2 squares

1 rectangle

Two squares make a rectangle.

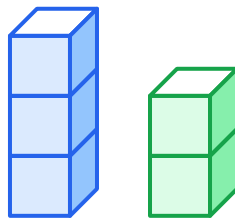


2 triangles

1 square

Two triangles make a square.

You can stack 3D shapes too. A tower of 3 cubes next to a tower of 2 cubes uses $3+2=5$ cubes.



Stacking cubes: 3 and 2 make 5.

2D and 3D Shapes: frequently asked questions

What is a defining attribute?

A defining attribute is a fact that must be true for a shape to have its name. A triangle must be closed and have 3 straight sides. Color and size are not defining.

What is the difference between a square and a rectangle?

Both have 4 sides and 4 square corners. A square has 4 sides that are all the same length. A rectangle can have long sides and short sides.

Is a turned triangle still a triangle?

Yes. Turning a shape does not change its sides or corners. A triangle that points down is still a triangle.

What shape does a can of soup look like?

A can of soup looks like a cylinder. A cylinder has two flat circles, one on the top and one on the bottom.

How can you make a rectangle from other shapes?

Slide two squares of the same size together along one side. The new shape is a rectangle. You can also use two rectangles.