

Fill in the Shapes

Regional Educational Laboratories
Appalachia, Central, Northwest

From the National Center for Education Evaluation at IES

Use pattern blocks with children to practice naming shapes, describing and comparing shape attributes, and making shapes. They are a great tool for encouraging children to talk about their mathematical thinking and discuss mathematical ideas and concepts.

Activity Instructions

1. Open the Math Learning Center app found under materials.



2. Click on the "Info" button at the bottom of the app for a quick tutorial on how to make shape puzzles.



3. Help your child choose an outline and then fill it with shapes.
4. Some outlines are more complicated than others. More complex outlines require more shapes and manipulations. The hexagon is easier to fill than the turtle outline.



5. Your child can also use the virtual pattern blocks to create their own shape puzzles to solve.

Supporting your child

Here are some questions you can ask your child as they work with the pattern blocks.

- What shape is this? (Point to any of the pattern block shapes.)
- How many sides does it have? How many corners?
- How many [triangles, hexagons, parallelograms, trapezoids] are there in this drawing?
- Can you use other shapes to fill in the [hexagon, square, trapezoid]?
- How many other ways can we fill in this outline? Or how many shapes can be replaced with other shapes?

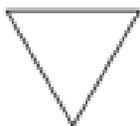
Learning Goal: Children use pattern blocks to make shapes.

Age Range: 5–7 years old

Materials:

1. Computer, tablet, or mobile device
2. Virtual pattern blocks from the Math Learning Center
<https://apps.mathlearningcenter.org/pattern-shapes/>
3. Geometry glossary (see next page)

Geometry Glossary



Count the sides and the corners.

If there are three of each, it is a triangle.

If the sides are all the same length, then it is an equilateral triangle.



Count the sides and the corners.

If there are four of each, it is a quadrilateral.

If it has two pairs of parallel sides, then it is a parallelogram.

If it also has four equal angles, then it is a rectangle.

If the sides are also all the same length, then it is a square.



Count the sides and the corners.

If there are four of each, it is a quadrilateral.

If it has two pairs of parallel sides, then it is a parallelogram.



Are the four angles equal? No? Then, it is not a rectangle.

Are the sides the same length? Yes? Then it is a rhombus.



Count the sides and the angles.

If there are four of each, then it is a quadrilateral.

Does it have two pairs of parallel sides? Yes? Then it's a parallelogram.

Does it have only one pair of parallel sides? Yes? Then it is a trapezoid.

This is a special case called an isosceles trapezoid because the angles at the base are the same measurement.



Count the sides and count the angles.

If there are six of each, it is a hexagon!

If the sides are equal in length, it's a regular hexagon.

This handout was prepared under Contract ED-IES-17-C-0004/5/9 by Regional Educational Laboratories Appalachia, Central, and Northwest. The content does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.