



Glow-in-the-Dark Geometry

The Big Idea:

Everything is better when it glows in the dark. This activity uses glowsticks to explore geometry!

You Will Need:

- ★ Glowsticks: 10 or 12 per person, or more if you have them!
- ★ If you don't have glowsticks on hand, try toothpicks, straws, or another set of objects of the same size

The Math Behind the Scenes:

- ★ Counting
- ★ Identifying 2-D shapes
- ★ Categorizing 2-D shapes
- ★ Exploring how shapes relate

Instructions

1. Give each kid 10 to 12 glow sticks.

2. Start with triangles.

★ How many sizes and kinds of triangles can you make?

★ How many can you name?

Equilateral triangles: All sides the same length

Isosceles: Only two sides are the same length

Scalene: All sides different lengths

3. Now try 4-sided shapes.

★ How many sizes and kinds can you make?

★ How many 4-sided shapes can you name?

Rectangle: a parallelogram with all right angles, not necessarily all equal sides

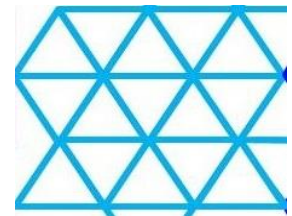
Square: a parallelogram with equal sides and all right angles

Trapezoid: top and bottom are parallel, sides slant outward

Parallelogram: pairs of parallel equal sides, tilted

Rhombus: a parallelogram with all equal sides

4. Finally, decorate the floor! Clear the floor of sticks; then lay out glow sticks in a **lattice of equilateral triangles**. Turn off the lights after you make it to see it glow!



★ How many triangles did you make?

★ What size triangles are you counting? Don't forget the big ones!

★ How many sticks per triangle should you need as you make more triangles?

★ What's the fastest way to make hexagons from our triangles?

★ How many hexagons can we make from all the sticks?

★ Where do you see this pattern in nature?