

# 3D Triangle Art

**Estimated Time: 45 minutes**

**SUMMARY:** Candy corn may not be everyone's favorite candy, but it is certainly shaped like the most loved shape in geometry! Use your noodle (or pretzel, or licorice, or candy cane) and experiment with making 3D sculptures using triangles! This activity will have you daring to build the largest triangle-based creation you can while ensuring stability and durability—at least until you eat it!

## WHAT YOU'LL LEARN

- Three types of triangles - equilateral, isosceles, and scalene
- Create a tetrahedron
- Demonstrate how triangles can form support structures for buildings and bridges

Materials Used	Resources Used
<ul style="list-style-type: none"> <li>• Ruler</li> <li>• Paper</li> <li>• Pencil</li> <li>• Protractor</li> <li>• Marshmallows, fruit snacks, gummy worms, or soft candy bars</li> <li>• Pretzel sticks, candy canes or sticks, licorice sticks, uncooked spaghetti noodles (not Angel hair!)</li> <li>• Plate</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://www.storyofmathematics.com/types-of-triangles">https://www.storyofmathematics.com/types-of-triangles</a></li> <li>• <a href="https://youtu.be/mBHJtWbsiaA">https://youtu.be/mBHJtWbsiaA</a></li> </ul>

## WHAT TO DO

1. Review the three types of triangles. An equilateral triangle has the same length sides and the same angles at each point. The isosceles triangle has two equal sides and two equal angles. The scalene triangle is all different—no sides or angles are the same.
2. First make an equilateral triangle. If you have a protractor you can make a true equilateral triangle. Otherwise you can use your best guess. Use your sticky candy to hold together your flat straight candy.
3. Try an isosceles and a scalene triangle. Compare them to each other - which do you think is going to be a good choice for your creation?
4. Once you have created each triangle, try making a tetrahedron. A tetrahedron is a 3D triangle. You can either use your original triangles or make new ones. Think about the 3D plane. You are creating a triangle that can stand on your plate or table.
5. Now that you have mastered the 3D triangle, try making several of them and create a tower. How tall can you make your tower?
6. Create a model for a building, or a piece of art that represents your love of triangles. Which type of triangle will you choose? Is the stability of the shape a factor in your design?



## TIPS

- Build a structure that can support weight. Try making an edible, triangular base for a book or a plate
- In addition to triangles, what shapes can you use or create to fortify your tower?
- For a non-food option, use clay or PlayDoh and straws, skewers or popsicle sticks.
- Try taking a hike to find natural items and create an outdoor piece of art that shows an appreciation for triangles.