



Gingerbread Architecture

The Gingerbread Man needs your help adding a border to his house! Candy canes, peppermints, twizzlers, or red hots - how many pieces of candy will it take go around your gingerbread house? Would you need the same number of pieces for every type of candy? In this activity, learn about perimeter and discover how the size and shape of your candy determines the number of pieces you will use to make your own gingerbread house.

TEKS:

4.5D Solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

6.3D Add, subtract, multiply, and divide integers fluently.

How To:

1. Place the small carton or box on a plate to act as the base of your house.
2. Use the ruler to measure each side of the carton and add these numbers together. The sum of all the sides is the perimeter of the house. This number will tell you how much candy you will need to make a border around the house.
3. Use one piece of whichever candy you want to use as your border to see if this perimeter is correct. Measure the length of one candy and divide the perimeter by that length. This is the number of candies you should need to go around the entire house. Check your math by counting out the candies and placing them around the edge of your house.
4. To build your house, use frosting to stick the graham crackers to the side of your box or container for the walls and one on top to be the base of your roof.

Materials:

- 1 can of frosting (not whipped)
- 1 package of graham crackers
- 1 small box or carton to serve as the house foundation
- Plate
- Ruler
- Items to decorate your house:
 - Gum drops
 - Mini candy canes
 - Mini marshmallows
 - Peppermints
 - Pretzel sticks
 - Twizzlers
 - M&Ms
 - Red hots
 - Sprinkles
 - Powdered sugar
 - Shredded coconut

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How To (continued):

5. On top of the base of the roof graham cracker, lean two graham cracker squares together to make a pointy roof and use lots of frosting to hold them in place.
6. Now it's time to decorate! Add your candy border and other food items to make your one-of-a-kind gingerbread house.

The STEM Explanation:

The perimeter is the line that forms a closed boundary around the outside of a 2-dimensional shape, like a rectangle or a triangle. To calculate it, you measure the length of each side of the shape and add the lengths together. The formula is $P = \text{length}_1 + \text{length}_2 + \text{length}_3$, etc. (the number of lengths depends on how many sides your shape has). If you are working with a square, it has 4 equal sides; so instead of having to measure each side and add them together, you can do $P = \text{length} \times 4$.

Career Connection:

Architects plan and design buildings for various uses. They use their scientific and mathematical knowledge of physics to understand building construction combined with their artistic abilities to design visually appealing structures. Architects are scientists, mathematicians, and artists. To become an architect you need a four-year degree and a professional degree from an architectural program.

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