Graham Cracker Houses

In this activity, students will build a structurally stable house constructed from graham crackers and frosting.

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Grades 5 - 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Time</td>
<td>1 hour</td>
</tr>
<tr>
<td>Preparation Time</td>
<td>10 - 30 minutes</td>
</tr>
<tr>
<td>Grouping</td>
<td>Individual</td>
</tr>
</tbody>
</table>

Objective

As a result of this activity the students will be able to:

- Work with limited materials
- Learn about different factors that affect the stability of a structure

Materials

Per Student:

- 1 package of graham crackers (about 9 crackers)
- 1 cup of creamy style classic frosting
- Assorted candies – candy canes, gum drops, and other colorful candies
- Plastic knife
- Paper plate
- Ruler
- Tablecloth

Optional:

- 1 cup of powdered sugar for every 1 cup of frosting
- Large mixing bowl
- Small spatula
- Strong mixing spoon

Optional Preparation:

The preparation of the frosting for this activity should be done on the day of the activity. Put all of your frosting in one large mixing bowl. Add the powdered sugar one cup at a time and stir it into the frosting using a strong mixing spoon. Continue to add the powdered sugar until the frosting is stiff enough to stand straight when the spoon is lifted from the frosting bowl. On each table put a large dollop of frosting on a paper plate in the middle of the table.
Graham Cracker Houses

Directions

1. Put a tablecloth on each table where the girls will be building their houses.

2. Give each student a plastic knife, a package of graham crackers and a paper plate.

3. Explain to the students that the goal of this challenge will be to build the tallest graham cracker house with the materials provided and that they will not be given extra crackers. They will also need to build their house on their paper plate.

4. Once most of the class has built their structures, place an assortment of candies on each table and let the students decorate their houses.

5. Measure the height of each student’s house and record the data.

Discussion Questions

- What houses were the strongest? What did they have in common?
- What were the specific features of the taller houses that contributed their stability?

Look for the following features that affect building stability in various student designs:

- Support/Reinforcement
- Triangles
- Wide to narrow (wide at base, narrow at top)
- Low center of mass