



STEM Activity Idea:

MARSHMALLOW TOWER

Suggested Program Level: Brownie

Marshmallows aren't just for s'mores, they can help you build a tower!

Supplies:

- uncooked spaghetti
- marshmallows (variety of sizes)
- measuring tape

Instructions:

1. Let the girls divide themselves into groups of two or three. Place the materials in a central location so all groups can easily access the supplies.
2. Challenge the girls to make the tallest free-standing tower they can with uncooked spaghetti and marshmallows. Lay out a couple ground rules about safety (all girls need to have their feet on the ground, no standing on chairs or tables to build) and about how many supplies they can retrieve at a time. A good starting point would be to let each group start with 10 marshmallows and 20 pieces of spaghetti. You can give each group another set of supplies every 5-10 minutes, depending on the momentum of the groups.
3. Let the groups build with little direction for a few minutes. If the groups are struggling, bring them back together to discuss what's working and what is difficult. Once the girls get a plan in place the momentum should pick up.
4. Set a time limit to do the first measurements, if you have more time, allow the girls continue until they feel like they can't build the tower any higher.
5. Once the towers have been completed, discuss the different approaches girls took when building their towers. Which groups focused on a strong base before building height? Who needed to stabilize the structure because it was built to high too fast? What were the pros and cons of the building materials? If this activity was to be done again with different materials, what would you want to try?

Why?

Creative problem solving is an important part of developing a critical thinker. There is no right way to build a tower with spaghetti and marshmallows, so being pushed to try different methods and experience immediate struggles and successes are valuable opportunities for girls. Working in a small group allows for each girl to play an active part in building the tower, and each girl should have a chance to try her ideas. If the girls did the activity individually, they may feel frustrated quickly instead of approaching the problem from a variety of viewpoints. If you have time to do an activity like this again, other possible supplies could be: newspapers and masking tape, toothpicks and gumdrops, K'Nex building materials, pipe cleaners, craft sticks, etc.