Marshmallow Toothpick Building

Summary of Activity:

Activity Description: Participants will be challenged to think in 3D and build geometric shapes before trying to build a structure with the shapes they have learned.

STEAM Skills: Engineering, geometry, math, building and construction skills

Activity Details:

Age range: K-5

Length: ~60 minutes

Materials and Supplies:

• Printouts of different 2D and 3D shapes
• 15 marshmallows
• 25 toothpicks

Challenge Build Adaptation:
• 15 additional marshmallows
• 20 additional toothpicks

General supplies needed: N/A

Talking Points and Background:

Participants will learn the different geometric shapes in a hands-on way, very little background information should be needed.

Stress that they are NOT to eat the marshmallows!

LAUNCH

PROCEDURE:

1. Have participants begin with 2D shapes, reusing the same toothpicks and marshmallows whenever possible, all participants should try at least 4 different shapes
2. Move to 3D shapes, these will take longer and participants will need to think in 3D to translate the card/printout into a 3D model. All participants should try all different shapes so that they can use them all in a free build

Adaptation: Free Build

1. Talk about how some of these shapes could be combined, (like by attaching cuboids together, or by adding a pyramid to a cube).
2. Have participants build a house structure as large as they can using the different shapes they have tried out earlier. The structure should be freestanding and kids can team up to make their structure bigger!

Adaptation: Group Build (optional)

1. Have everyone try to build as many cubes as possible, work as a group to attach them together and make a bigger, solid cube as a group!

TIPS AND TRICKS:

Group build - kids will need help visualizing the final cube, coach/parent support will be needed to help make sure the cube is able to stand up. Remember, cubes have the same area on the bottom as the top, which will help keep it stable!

REFERENCES OR OTHER LINKS:

https://teachbesideme.com/marshmallow-toothpick-geometry-cards/
More Geometric Cards: https://members.teachbesideme.com/wp-content/uploads/2017/06/Marshmallows-and-Toothpicks-book.pdf