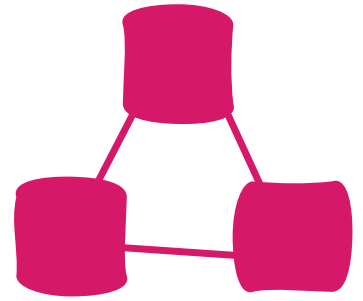


Marshmallow Structures



Activity Description

How is a cube created? How is a pyramid created? You can use toothpicks and marshmallows to create geometric shapes! You can learn about three-dimensional structures by recreating models using simple materials and test their strength and durability.

Learning about three-dimensional shapes and what materials are used is an important part of the engineering design process. Engineers create multiple versions

Materials

Small Marshmallows (Or small pieces of molding clay or playdough)

Toothpicks

Preparation and Safety

Toothpicks can be sharp, use caution when building with them.

of their structural designs; in this activity you too can be a mini structural engineer to create structures out of three-dimensional shapes.

Procedure

Challenge 1: Make a square:

- Can you make a square out of marshmallows and toothpicks? Try using four marshmallows and toothpicks to create it. What do you notice about the square? Can it stand up on its own?

Challenge 2: Make a cube:

- Now that you have made a square, try making a cube. A cube is made of six squares, one on the top and one on the bottom with four square sides. Does the cube collapse like a square might or does its structure allow it to stand up?

Challenge 3: Make a triangle:

- Now that you have made a square and a cube, is there another shape that could be used for building? Try making a triangle out of the marshmallows and toothpicks.

bitesizeactivities

Procedure (continued)

Challenge 4: Make a pyramid:

- Once you have created a triangle, try using your mathematical skills to create a pyramid. A three-sided pyramid has one triangle as its base and three triangles that come together to form a point. Do you think you could make a four-sided pyramid?

Challenge 5: Build a structure:

- After learning how to build cubes and pyramids, try building a structure out of those three-dimensional shapes. Can you make your structure stand like a tower or go over an object like a bridge? Each three-dimensional shape structural engineers use when creating blueprints for bridges, office buildings, skyscrapers, etc.

Extensions and Adaptations

- After you have made a cube or pyramid, try using toothpicks and marshmallows to make the Eiffel Tower, the Washington Monument, or other famous structures!