

Marshmallow Igloo

Target Grade: Grades K-8

Time Required: 15-20 minutes

Standards/Topics Covered:

NGSS Standards

- **K-2-ETS1-2:** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- **MS-ETS1-1:** Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solutions, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

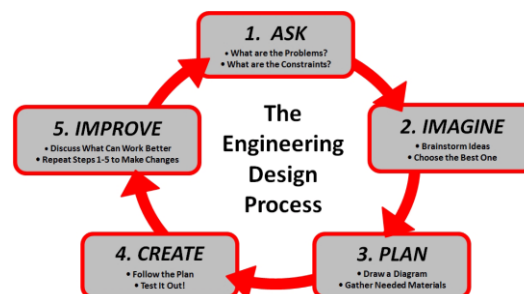
Central Focus:

In this activity, students will create an igloo made from just marshmallows and toothpicks. This engineering activity could be use for problem solving, special reasoning, or geometric concepts.

Background Information:

Igloos are small houses made from snow. They are built by cutting out blocks of ice and stacking them in a spiral pattern until closing off at the top to create a strong dome structure. For centuries, the native people of northern Canada, known as the Inuit people, built and lived in igloos. The Inuit way of life changed drastically after World War II. More non-indigenous people began to travel and set up permanent shelters in the Arctic regions. Today, very few Inuit use igloos.

In this activity, students will be working through a simplified version of the Engineering Design Process, which will allow them to work through a systematic way of problem solving. Below is a diagram of all the steps, but in this short activity, students will be working through the Plan, Create, and Improve steps.



ORAU Activity

Materials

- Mini marshmallows
- Wooden toothpicks

Instructions

- Start off by having a conversation about igloos. What do they look like? How are they built? You can even show this [video](#) to learn about an Inuit igloo.
- Have students work through the following steps of the engineering design process to create their marshmallow igloo:
 - Plan: Draw a picture of the igloo you plan to create.
 - Create: Build the igloo.
 - Improve: Redesign to fix any weaknesses or things that could be improved upon even more in your igloo.
- If students are struggling to get the igloo to stay standing, help them by suggesting they use shapes such as triangles or hexagons to build with.

