

Polar Shelters

Overview

Students read about polar regions and create models of shelter adaptations for the cold frigid climate.

Objectives

- Students will understand how humans create and survived in shelters in the polar regions.
- Math Link: Students can count how many marshmallows it takes to cover up the entire igloo

Lesson Preparation






- Read the Book: *Igloos and the Inuit Life* by Louise Spilbury
- Cut one inch off of the top of the cup. (A grown up may want to do this in preparation for the activity).

Procedure

1. Turn the cup upside down and glue it to the Styrofoam tray.
2. Glue marshmallows around the base of the Styrofoam cup.
3. Glue more rows of marshmallows around the cup until it is covered.
4. Stack a few marshmallows to the side of the cup to make the door to the igloo.
5. As the students start to finish, have students explain why they think polar people would create these igloos.

Information on Igloos

Details

-  Lesson
-  Arctic
-  About 1 period
-  Download, Share, and Remix
-  Elementary and Up

Materials

Styrofoam tray
Styrofoam cup
Mini marshmallows
Glue
Scissors
Optional: White icing or frosting instead of glue

Standards

Next Generation Science Standards

3-LS4-2:

- An igloo is a domed shelter constructed from blocks of snow, but did you know that the word igloo comes from the Inuit word “iglu”, meaning house? In the Inuit language, the word iglu covers all types of houses and in some dialects, all types of buildings as well.
- Igloos were used because of the traditional lifestyle of the Inuit. Being nomadic, the Inuit could build a new igloo every time they changed locations. With snow being the most common material and all other building materials being scarce (i.e. wood, rocks, sod), the Inuit had to build their shelters out of snow. An igloo could be built fairly quickly; two experienced igloo builders could build one in under an hour.
- Igloos work well because of the way they are built: from the inside in a spiral that gives the igloo its strength. The igloo builder builds himself into the igloo and then cuts out the door from the inside. Heat from a small fire or body heat from the inhabitants warms the igloo, causing the inside to melt slightly. The inside will then refreeze when the inhabitants step out, creating an ice layer that adds to the igloo’s strength.
- A completed igloo is strong enough to hold a person. Thanks to the insulating properties of snow, the inside temperatures stay between -7°C and 16°C while the outside temperatures can drop to -45°C . Besides a door, igloos also have a small ventilation hole or holes cut into their roof to allow carbon dioxide to escape so that the occupants do not suffocate.

Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

3-LS4-3:

Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Resources

Igloos and the Inuit Life by Louise Spilbury

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