

## Design Challenge: Igloo of Salt

### Description:

Designing and Building an Igloo with Ice Cubes and Salt.

### Objective(s):

1. Students will design and build an igloo using ice cubes and salt.
2. Students will utilize the Engineering Design Process to build a simple igloo.

### ISTE/NGSS Standards:

3a: Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.

4c: Students develop, test and refine prototypes as part of a cyclical design process.

5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

MS-ETS-1.1: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

# Teq Lesson Plan Activity

## Essential Question(s):

What effect does salt have on the freezing point of water?

## Materials:

- Ice Cubes
- Crystalized Salt
- EDP Graphic Organizer

<https://docs.google.com/document/d/1UYqqzT3aMgdNVb6-zog02Q4mY686WuM-2iHSEfsyLps/edit>

## Do Now:

What is a design? What is the difference between a design and a prototype?

## Lesson:

1. Class will work individually or in small groups (2-3 students).
2. Groups will research igloo design principles.
3. Groups will work together to build the model igloo.
4. Teacher will monitor students as they work and fill out the Engineering Design Challenge Graphic Organizer.

## Closure:

Students will complete reflection section of Graphic Organizer.

## Extension:

Students build a full size igloo using snow or cardboard boxes.