

Grade Kindergarten

Topic Inquiry/Problem Solving

Title Locked in Ice

Standards:

- K.1.1 Raise questions about the natural world.
- K.1.2 Begin to demonstrate that everyone can do science.
- K.2.2 Draw pictures and write words to describe objects and experiences.

Objectives:

- Students will be able to evaluate the most effective way to remove the boat from the ice.
- Students will be able to work cooperatively to complete the experiment.
- Students will be able to manipulate materials appropriately.

Materials:

[The Lamp, the Ice, and the Boat Called Fish: Based on a True Story](#)

By Jacqueline Briggs Martin and Beth Krommes_

Teacher

- 2 pre-made graphs (one yes and one no)
- Colored stickers for each group of students

Each student group(approx. 3 students)

- 1 play boat locked in ice
- 1 set of materials ...more materials (optional)
 - Rope (yarn) Ball (cotton ball)
 - Clothes (felt) Oil (cooking oil)
 - Tools (craft stick) Lamp (small bowl)

Procedure:

Preparation

- Students need to have prior experience with graphing and inquiry/problem solving.
 - Teacher needs to pre-make two graphs, freeze the boats, and have a set of colored stickers for each group of students.
 - Teacher may also want to pre-group the students.
1. Read the first two sections of the story and discuss what the problem in the story is (*the passengers and the boat are frozen in the ice*).
 2. Discuss what they can do/use to solve this problem...remind them that this was a long time ago and have the students identify what the passengers had on the boat to use. Provide the materials and relate them to the identified items they will use during the experiment.
 3. While the children are looking at the items, allow them time to complete the **Journal Sheet** about what their plan is (pre-test).
 4. Tell them what their procedure will be:
 - A. Choose a material.

- B. Try the material.
 - C. Record results with a sticker on the Yes or No graph (yes if the boat came out of the ice and no if the boat stayed in the ice). See sample graphs that follow.
5. Hand out materials and allow them time to perform the experiment.
 6. Discuss and allow them time to fill in another **Journal Sheet**. (post-test)

Assessment:

Teacher can use formative assessment throughout the lesson.
After the lesson, the teacher may use the **Evaluation form** for a summative assessment.

Created by:

Meredith Jones

Journal Sheet
Pre-test / Post-test

Name: _____

Date: _____

How did you get the boat out of the ice?

Evaluation Sheet

Name _____

Project: Locked in Ice

Student completed a detailed plan (pre-test) _____/4

Student completed a detailed summary (post-test) _____/4

Student worked cooperatively in their group _____/4

Student used materials appropriately _____/4

Student stayed on task during experiment _____/4

Total: _____/20

Notes:

Rubric

4 = complete with detail, cooperated, appropriate

3 = complete, cooperated, appropriate

2 = partially complete, little cooperation

1 = not complete, no cooperation

This is a sample “Yes Graph”:

5			
4			
3			
2			
1			
	Rope	Clothes	Tools

This is a sample “No Graph” (optional for more materials):

5			
4			
3			
2			
1			
	Rope	Clothes	Tools