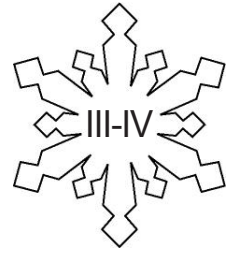


# Displaying Sea Ice

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Levels



Grades 5-8

## Overview:

Students work as a class to create a sea ice display demonstrating their knowledge, which can be displayed in the school or as a science fair project. (NOTE: This lesson requires more than one class period.)

## Objectives:

The student will complete one activity on the “Activity Chart.”

## GLEs Addressed:

### *Science*

- [5-8] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.

### *Writing*

- [5-6] W2.5.1 The student documents sources by giving credit for others’ ideas, images, and information by citing title and source (e.g., author, storyteller, translator, songwriter, or artist).
- [7] W3.5.1 The student documents sources by giving credit for others’ ideas, images, and multi-media information by citing sources, including author, title, and publishing information (using simplified MLA or APA style).

## Whole Picture:

Sea ice floats on cold oceans on the top of the world (the Arctic and other northern oceans) and bottom of the world (around Antarctica). It grows only on the ocean, unlike icebergs, glaciers, and ice shelves, which float in the ocean but begin life on land. Sea ice comes in many forms, from large ice floes to frazil ice that floats like frozen knitting needles in the ocean. Though sea ice floats on salt water, it doesn’t taste any saltier than the ice cubes in your freezer. While it floats on the ocean, sea ice is often covered with snow. Because it’s white, sea ice reflects sunlight and heat. When there’s less sea ice, the dark surface of the ocean absorbs more heat. Because of this, scientists think the whole world might get warmer if enough sea ice disappears from the north. In recent years, scientists have noticed the northern sea ice has been shrinking quite a bit.

## Materials:

- OVERHEAD: “Sea Ice Display Activity Chart”

## Activity Preparation

This lesson requires that students, individually or in small groups, complete individual portions of a class project. Students may choose their own activity from the OVERHEAD: “Sea Ice Display Activity Chart,” or an activity may be chosen for them. Alternatively, students may select one or two preferred activities (preferably from separate columns) before having one assigned to them. If activities are to be assigned, determine which student will complete which activity.

## Activity Procedure:

1. Explain that as a class, students will create a display to educate the school and/or community about sea ice. Students will work individually or in small groups on specific aspects of the display.

2. Display the OVERHEAD: "Sea Ice Display Activity Chart." Ask students to choose an activity, or hand out activity assignments. Explain that all student work should be based on science knowledge and predictions. For example, the short story that demonstrates how Earth will look if all the sea ice melts should be based on scientists' predictions.
3. Distribute the STUDENT WORKSHEET: "Project Plan" and assist students in determining how they will accomplish their task and what materials or resources they need.
4. When students have completed Part I of their project plans, distribute necessary materials and establish a timeline for completion.
5. Request that students turn in their completed student worksheets with their final product.
6. Using poster board or alternative materials, create the display of completed student projects as desired.

## Answers:

Answers will vary.

## Rubric:

Writing and Presentations: The following rubric is an example of one way to assess student performance. The rubric can be used to assess student performance and/or allow students to assess their own performance.

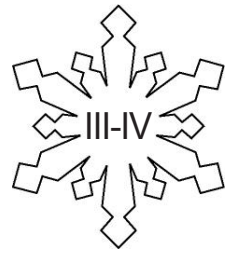
<b>Performance Measure</b>	<b>Self</b>	<b>Teacher</b>
1. My project shows an understanding of the topic.		
2. My ideas are expressed clearly and in a logical manner.		
3. I used correct spelling, grammar and punctuation.		
4. The purpose of my presentation was clear.		
5. My topic has been accurately researched.		
6. I developed an outline, storyboard, or script before completing my project.		
7. My visual aides are easy to read and understandable (appropriate size, graphics, colors, font size, etc.).		
8. My visual aides support my presentation.		
9. The vocabulary I used in my presentation was appropriate for the audience and was used correctly.		

Name: \_\_\_\_\_

# Project Plan

## Student Worksheet

Levels



### Part I

1. Assigned Activity:

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2. What is your plan for completing your activity?

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3. What materials are needed?

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4. Project Due Date: \_\_\_\_\_

TEACHER APPROVAL: \_\_\_\_\_

Name: \_\_\_\_\_

# Project Plan Part II and III

## Student Worksheet

### Part II

5. Cite all resources.

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6. If any part of the plan outlined in question 2 changed, explain what and why.

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### Part III

7. Write a short reflection, which describes the process of completing this activity and any knowledge that was gained.

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# Sea Ice Display Activity Chart

## Overhead

Art	Writing	Research
Create pictures of sea ice at various stages of development using any method (drawing, painting, photographing, etc.).	Interview Native Elders on the importance of sea ice and compile interviews into a half-page article on the cultural value of sea ice.	Compile satellite images that show how sea ice has changed over the last 30 years.
Make two 3D models of sea ice: one of sea ice growth and one of sea ice disintegration.	Write a short story from the point of view of an animal that relies on sea ice demonstrating how the animal uses the sea ice.	Write an article explaining how scientists use sea ice to study the weather of the past.
Create three models of sea ice deformation.	Write a short story that demonstrates how Earth will look after all the sea ice melts.	Provide five original suggestions on how people can help save sea ice.

### Art

Students completing art activities may use any available materials and/or methods.

### Writing

Students may write stories in any format (comic strip, article, play, narrative, letter, etc.).

### Research

Students completing research activities should cite all sources.