

Background

Students have an understanding that global climate change is happening. We have discussed the change in the climate. Students have also been learning about glaciers on land and in water. I am hoping this activity will help show the students why scientists are so concerned about global warming. I also hope that they will realize the effect the glaciers will have on coastlines if this trend continues.

Standards

- Make purposeful observation of the natural world using the appropriate senses.
- Generate questions based on observations
- Plan and conduct simple investigations.
- Manipulate simple tools that aid observation and data collection.
- Construct simple charts and graphs from data and observations.
- Communicate and present findings of observations
- Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- Describe objects and substances according to their properties.
- Describe the major landforms of the surface of the Earth.
- Identify water sources.
- Describe the properties of water as a liquid.
- Describe the properties of water as a solid.

Objectives

TLW

- learn that ice formation on land will cause a rise in sea level when they melt, whereas ice formation on water will not cause a rise in sea level when they melt.
- Practice some of the steps involved in a science investigation.

Vocabulary

- Global Warming- The increase in average temperature as a result of increased atmospheric greenhouse gases
- Global Climate Change- the change of average temperature, rainfall and wind patterns as a result global warming
- Greenhouse gases- gases in Earth's atmosphere that absorb and rewarm heat near the surface of the planet
- Displacement- the forced relocation of water due to a submerged object occupying fluid space

Materials

- Two identical clear food storage boxes (approximately 6 inches square) per group of 3-4 students
- 8 sticks of classroom clay per group
- Black Marker
- Red Marker
- 1 liter of water per group
- ice cubes

Procedure

- Place half of the clay into one side of each box and form land. They may also create a river that runs off into the ocean.
- Place 4 ice cubes in the water of one box representing the glaciers.
- Place four ice cubes on the land in the other box to represent the landlocked ice.
- Add water to each box until the water levels are equal. Make sure the land is still free of water.
- Have students mark the initial measurements of water with the black marker
- Leave both boxes and observe after 4 hours (when the ice cubes have had a chance to melt)
- Have students mark the new water level with the red marker

Assessment

1. Which container had sea level rise higher?
2. Why do you think this happened?
3. What would happen if global warming continues and our landlocked ice melts?
4. Is this a positive thing or a negative thing?

This lesson plan was changed and adapted for a second grade from the lesson found at www.calacademy.org/teachers/resources/lessons/