How Many Times Did You Fall Into a Crevasse?

Activity Time: 30 minutes

Background

Crevasse are cracks in the brittle surface of a glacier. Some can be small, but many are very large, sometimes measuring around 150 feet deep and over 65 feet wide. That means the Statue of Liberty could fit inside a large crevasse! As the ice moves over uneven terrains, crevasses are created due to sections of the glacier moving at different speeds. For mountaineers and researchers, crevasses are one of the scarcest dangers. The deep cracks are hidden by a thin layer of snowfall called a snow bridge. Because snow bridges cover the crevasses and are not strong enough to support much weight, anyone who steps on a snow bridge could instantly fall into a deep, dark crevasse resulting in injury and even death. Research teams and mountain climbing expeditions may use maps or radar to avoid crevasses. But just in case, they often tie themselves together with ropes and are always well-trained at saving people who have fallen in.

Materials per student pair

- Two bamboo skewers (crevasse detectors)
- One shoe box
- Two different colored dry erase markers
- One clear clipboard or transparency film sheet
- 5 oz. plastic cups (as many as can fit in the shoe box)
- Two layers of polyester batting to cover the shoe box
- Scissors
- Four binder clips

Introduction

Discuss as a class hazards that are found when exploring glaciers. Reveal that crevasses actually pose one of the most significant dangers as they are deep, wide, hidden, and always shifting. Even the most experienced researchers and mountaineers can easily fall into a concealed crevasse. Safety measures like roping multiple people together and having the travelers understand how to save someone from a crevasse, as well as using maps and radar, are all ways to avoid injury or death from falling into a crevasse. Show students photographs of crevasses on Example Sheet 7.4 Crevasse Pictures.

Activity

See Crevasse Game Set Up 7.4 for visual reference of setup.

1. Partner with one other student and bring supplies to a flat surface.
2. Cut two pieces of batting (snow) that will both cover the top of the shoebox.
3. Take enough plastic cups to completely cover the inside of the shoebox.
4. Place the cups in the shoe box so the bottoms of the cups are facing up. You may have to bend the rims of the cups.
5. Stack the two pieces of batting on top of one another and place them on top of the shoebox.
6. Take four binder clips and clip the batting layers to each side of the shoebox.
7. Choose a different colored dry erase marker than your partner.
8. Place the clipboard/transparency on top of the shoebox.
9. Trace the rim of the box on the clipboard/transparency with a dry erase marker.
10. Remove the clipboard/transparency.
11. To play, the first student uses the detector to poke through the batting and into the box.
12. If he hits a cup, he is safe. If he does not hit a cup, he fell in a crevasse!
13. After falling in a crevasse, place the clipboard/transparency back on top of the box making sure the traced lines match up with the rim of the box.
14. The student who fell in the crevasse will put a dot on the clipboard/transparency where they poked through the batting with the crevasse detector.
15. Take turns poking through the snow with the crevasse detectors to make a map of danger zones!
16. Count your color of spots. The winner has the least number of falls into a crevasse.

Extension

Using the clipboard/transparency which mapped the locations of the crevasses, create a new map with a new marker color to show the safe places to travel across the glacier. Try it out with your crevasse box. Have the students discuss which mapping method is more reliable. Would you rather have a map that tells you some places to avoid or a map that tells you some parts that are safe? Keep in mind that you didn’t test every single possible spot!