

## *Lesson 13 - Grades 3-5 - Beyond Stone Walls Curricula*

### **Ice Cream Erosion**

# **Grade Level: 3 – 4**

Authors: N. Titchen, T. Swale, E. Reemsnyder

### **Content Standards**

Science (NSTA)

- Content Standards B & D

English Language Arts (NCTE):

- Standards 7 & 12

### **Learner Background**

- SWBAT explain what erosion is and how it affects landscapes.
- SWBAT predict what will happen to a landform when it erodes.
- SWBAT cite examples of erosion.

### **Student Learning Objective(s)**

- SWBAT identify and describe the Earth process of erosion.
- SWBAT transfer knowledge of erosion from class exercises to real world examples.

### **Assessment**

- Informal – The teacher can use the informal discourse between students and teachers to assess the student’s ability to understand erosion. The teacher should also monitor what kinds of predictions are being made and if students are able to grasp the concept of predicting.
- Formal – The teacher should have the students write all their responses in their science journals so that the teacher can better assess their predictions, observations, and explanations.

### **Materials/Resources**

- 1/2 gallon of vanilla ice cream with chocolate swirled in.
- Hot Chocolate

- Large kitchen knife
- Large bowl or container

## **Learning Activities**

### **Initiation**

(5 minutes) The teacher begins by explaining the lesson and letting the students know that they will be studying the Earth process of erosion. Teacher explains that water, when flowing downhill, picks up particles of dirt and moves them downstream. Over time, this process can cause great fissures in the land.

### **Lesson Development**

1. (10-15 minutes) The teacher should have the ice cream fairly warm so that he or she can cut through it. With a large kitchen knife, teacher slices through the ice cream, pointing out the layers to students. Teacher tells students that the ice cream represents the land in this lesson and that the hot chocolate represents the water. The teacher asks students to now make a prediction about what they think will happen when the hot chocolate is poured onto the ice cream. Students share their predictions and explain why they agree or disagree. The teacher encourages students to discourse at length.

- (10-15 minutes) The teacher now pours the hot chocolate onto the ice cream, asking students to write down any observations they make. The teacher then asks the leading questions, “What is happening to the ice cream? What is this simulating in the real world?”
- A class discussion about erosion and how it creates river beds, landslides, canyons, etc. is facilitated by teacher. The teacher asks students if they can think of one example of erosion that they know of in the real world.

### **Closure**

(10 minutes) The teacher now splits up the ice cream for students to eat, while students respond in their journals to the following questions:

- “Was your prediction right?”
- What did you see here today, and how does it relate to real life?”

When the students are finished writing their answers they can eat their ice cream.