



EDIBLE LANDSCAPES

OBJECTIVE Using common household items, students will simulate glacial movement and discover ways that landscapes are formed.

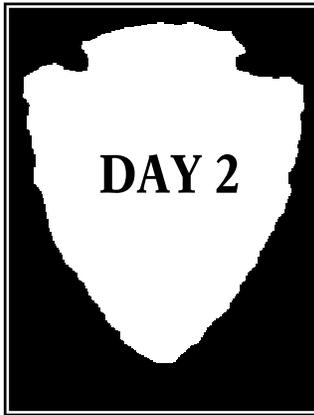
GRADES Middle or High School students

DURATION 1 50-minute class period

MATERIALS

- Chocolate chip ice cream
- Ice cream scoop
- Paper towels
- Baking sheet or pan
- Tin foil
- Graham Crackers
- Pretzel sticks
- Hard candy
- Plastic gloves

KEY CONCEPTS Glacier, glacial movement, glacial scouring, glacial till



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NATIONAL EDUCATION STANDARDS:

Science:

NS.5-8.1 Science as Inquiry

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.5-8.4 Earth and Space Science

- Structure of the earth system

NS.5-8.7 History and Nature of Science

- Science as a human endeavor
- Nature of science

NS.9-12.1 Science as Inquiry

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.9-12.6 Personal and Social Perspectives

- Natural resources

NS.9-12.7 History and Nature of Science

- Science as a human endeavor
- Nature of scientific knowledge

EDIBLE LANDSCAPES

DAY 2



LESSON DESCRIPTION:

Students use common household food items in an activity simulating glacial movement and landscape formation.

INSTRUCTOR NOTES:

- The teacher should model the activity for the students as they follow the *Edible Landscapes* worksheet.
- Once the students have completed up to the “Making a Connection” section of the worksheet, the teacher will go through the Edible Landscapes PowerPoint presentation with the class.

INSTRUCTIONAL LESSON PLAN:

1. Introduction to the lesson	5 minutes
2. Edible Landscapes Activity	25 minutes
3. Edible Landscapes Presentation	20 minutes
4. Clean up	5 minutes

PREPARATION AND PROCEDURE:

1. Have the materials for the experiment ready before class starts.
2. Have an “Edible Landscapes” worksheet for each student.
3. To save time, have the Edible Landscapes presentation open and ready.
 - a. Once you have opened the presentation in the PowerPoint program, select “Slide Show” from the top toolbar and then select “View Show”.
4. At the beginning of class, split the students up into pairs or small groups.
5. Have each group obtain the materials they will need for the activity.
6. Take the class through the worksheet, modeling each step first and then giving the students time to complete the procedure. (This should take about 25 minutes.)
7. When the students have completed the Making a Connection section at the end of page 2, take them through the PowerPoint presentation. (It should take about 20 minutes to go through the presentation, allowing them time to complete page 3 of their worksheet.)

EDIBLE LANDSCAPES

Objective: *Use common household items to discover ways that landscapes are moved and shaped.*

- Materials:**
- Chocolate chip ice cream
 - Ice cream scoop
 - Paper towels
 - Baking sheet or pan
 - Plastic spoons
 - Graham crackers
 - Pretzels sticks
 - Candy pieces
 - Tin foil
 - Plastic gloves

Procedure:

1. Line your baking sheet or pan with tin foil and put on plastic gloves.

2. Crumble the graham crackers onto the baking sheet in a mound.



3. Sprinkle or place the candy and pretzels all around the graham cracker crumbs.

4. Place a scoop of ice cream on top of your crumb, pretzel, & candy mixture.



5. Put on plastic gloves and compact the ice cream by squeezing it.

6. Write down your observations in the Observations section below.

7. Pull the ice cream back across the crumb.



8. Write down or draw your observations in the Observations section below.

Name:

Observations:

<i>As the ice cream is compacted...</i>	<i>As the ice cream is dragged across the crumbs...</i>
<p>1. What happens to the crumbs?</p> <p>2. What happens to the ice cream?</p> <p>3. What happens to the candy and pretzels?</p>	<p>1. What happens to the crumbs?</p> <p>2. What happens to the ice cream?</p> <p>3. What happens to the candy and pretzels?</p>

Making a Connection:

1. What do you think the following materials from your experiment represent in real life?
 - a. Ice cream-
 - b. Graham cracker crumbs-
 - c. Chocolate chips in the ice cream-
 - d. Candy-
 - e. Pretzels-

2. What landscape altering process in nature **do you think** this experiment is simulating?

Name:

Your teacher will take you through a presentation as you answer the following questions.

1. What **do** the following materials from your experiment represent in real life?
 - a. Ice cream-
 - b. Graham cracker -
 - c. Chocolate chips in the ice cream-
 - d. Candy-
 - e. Pretzels-

2. What did squeezing the ice cream with your hands represent?

3. What process was simulated by dragging the ice cream back across the crumbs?

4. Using the information you have learned in this activity, **describe how this experiment relates to the formation of landscapes**. Be sure to use examples from the experiment and the presentation, and **relate your answer to the photograph** at the end of the PowerPoint presentation.

