

## LESSON 11

# CHOCOLATE ICE WEDGING & EROSION SIMULATIONS

*This week, you have two activities where you'll have the opportunity to simulate natural processes that are happening all the time in the world around you—ice wedging and erosion.*

## Chocolate Ice Wedging Simulation

In this activity, you get to play with chocolate—but not eat it. You will simulate ice wedging using a balloon and some chocolate Magic Shell®. The balloon with the Magic Shell® coating will represent the rock. Let's discover how water freezing inside the balloon impacts it.

## Supplies

- |                 |                          |
|-----------------|--------------------------|
| ✂ Small balloon | ✂ Magic Shell® chocolate |
| ✂ Bowl          | ✂ Paintbrush             |
| ✂ Plate         | ✂ Freezer                |

## Instructions

1. Fill a small balloon with water. It should only be inflated a few inches in diameter.
2. Hold the balloon over the bowl and begin to pour the Magic Shell® chocolate over the balloon. You may need to use a paintbrush to make sure that the chocolate completely covers the balloon.
3. Place the chocolate-covered balloon on the plate.
4. Draw a picture of your balloon, paying close attention to how the chocolate looks.
5. Place the plate with the balloon on it into the freezer. You need to wait for the balloon to freeze entirely. Allow it to freeze undisturbed. You may need to leave your balloon in the freezer overnight for the balloon to freeze completely.
6. After the balloon is frozen, remove it from the freezer very carefully. Draw a picture of your frozen balloon. Pay close attention to what the chocolate looks like.

## Erosion Simulations

In this lab, you will be simulating erosion or the moving of sediment from one place to another. We are going to build a landscape and create erosion on that landscape.

### Supplies

- ✂ 2 large disposable roasting pans
- ✂ Soil or dirt
- ✂ Newspapers
- ✂ Real or plastic plants or trees
- ✂ Water
- ✂ Watering can or container to pour from
- ✂ 2 houses or shelters made of cardboard or cardstock paper

### Instructions

1. To build your landscape, first split the newspaper in half.
2. Ball up both halves of the newspaper by pulling one sheet of newspaper from the pile at a time and crumpling it into a ball.
3. Place the balls of newspaper at one end of each of your roasting pans.
4. Completely cover the newspaper with the soil or dirt so there is at least one inch of dirt on top of the newspapers.
5. Place your shelter or house at the top of the hill in both pans.
6. In one pan only, scatter the plants or trees around the hillside.
7. Sketch what both pans look like at this time.
8. Fill your watering can with 2 quarts of water. Hold the watering can over the pan with no trees and begin to pour the water at the top of the hill only. Empty the watering can.
9. Fill your watering can with 2 quarts of water. Hold the watering can over the pan with the trees and begin to pour the water at the top of the hill only. Empty the watering can.
10. Sketch what your pans look like now.

### NOTES

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