

5th grade Weather – Student Activity Guide

Activity Description

Using materials in your individual student activity bag, you will set up and compare several water cycle simulations. Each part of the lesson explores a different aspect of the water cycle and its effect on weather.

These directions will get you started. Your teacher will be in contact to guide you and provide information.

Part 1: Put a Lid on It! Closed vs. Open System

Materials from the bag:

- 2 hinged deli containers
- 2 graduated medicine cups, 1oz.
- 1 dropper

Procedure

1. For this part of the activity you will need to supply water.
2. Set out two hinged deli containers.
3. Add 15 ml of water to the two graduated 1 oz. cups.
4. Place one of the cups containing 15 ml of water in each deli container.
5. Seal the lid on one container and leave the other open.
6. Observe! If possible, place the containers near a window or take them outside to receive sunlight. Observe about 30 minutes after sealing the container and over the course of a day, make and record observations about both containers at least three more times at least an hour apart.
7. Clean and dry materials to re-use them next time.

Extension: What do you think will happen to the water in the cup if the container is left open for several days?

Part 2: That's cold! Temperature Effect on Water Cycle

Materials from the bag:

- 2 hinged deli containers
- 2 graduated medicine cups, 1oz.
- 1 dropper

Procedure

1. For this part of the activity you will need to supply: water, an ice cube, and paper towels.
2. Set out two hinged deli containers.
3. Add 15 ml of water to the two graduated 1 oz. cups.
4. Place a cup of water in each deli container.
5. Seal the lids on both containers. Do not open until the activity is over!
6. Place 1 large ice cube on the lid of one of the containers.
7. Observe! If possible, place the containers near a window or take them outside to receive sunlight. After the ice cube melts, soak up the water on the outside of the container with a paper towel.
8. Observe both containers. What do you notice?
9. Clean and dry materials.

Extension: Repeat using 3-4 ice cubes. Predict what you expect to happen and then test it.

Part 3: Effects of Surface Area on the Water Cycle

Materials from the bag:

- 2 hinged deli containers
- 2 graduated medicine cups, 1oz.
- 1 dropper

Procedure

1. For this part of the activity you will need to supply: water, ice cubes, and paper towels.
2. Set out two hinged deli containers.
3. Add 15 ml of water to the two graduated 1 oz. cups.
4. Place a cup of water in one container.
5. Pour the 15mL water out into the other deli container. Place cup aside.
6. Close the lids on both containers. Do not open until the activity is over!
7. Place a large ice cube on the lids of both containers.
8. If possible, place the containers near a window or take them outside to receive sunlight.
9. Once the ice cubes melt, soak up the water on the outside of the container with a paper towel.
10. Observe both containers. What do you notice?
11. Clean and dry materials.

Part 4: Dirty water! It's called the WATER cycle.

Materials from the bag:

- 2 hinged deli containers
- 2 graduated medicine cups, 1oz.
- 1 dropper

Procedure

1. For this part of the activity you will need to supply: water, ice cubes, paper towels and food coloring.
2. Set out two hinged deli containers.
3. Add 15 ml of water to the two graduated 1 oz. cups.
4. Add 5 drops of food coloring to ONE of the small cups.
5. Place a cup of water in each deli container. One will have clear water, the other colored water.
6. Close the lids on both containers. Do not open until the activity is over!
7. Place 1 large ice cube on the lids of both containers.
8. If possible, place the containers near a window or take them outside to receive sunlight.
9. Once the ice cubes melt, soak up the water on the outside of the container with a paper towel.
10. Observe both containers. What do you notice?

Extension:

What would you expect to happen if the colored water cup sat out until all of it evaporated? Predict and test.

Mix a teaspoon of salt into 15 mL of water and set it out until the water evaporates. How is this similar to the water evaporating in the ocean?