

Title: Rounding up the Rain

Subject: Science

Skills: Predicting, observing, recording, concluding

Grade Level: 2nd through 5th

Length of Lesson: 30 minutes initially, then observations over the course of the day

Overview: Students will observe the water cycle first hand by watching water evaporate, condense and precipitate in a controlled environment.

Background information: Water evaporates from the earth and its bodies of water through the heat of the sun and becomes water vapor. This water vapor is then carried up into the atmosphere through air currents. As it rises the cooler temperatures cause it to condense forming clouds. Once these clouds become saturated, the water vapor becomes water and falls or precipitates out of the clouds and falls to the ground.

Materials per group:

Glass jar

Saucer

Water

Ice cubes

Teaching the Lesson:

1. Show students a glass of water and ask them how old they think the water is.
2. Explain that all of our water has been around as long as the Earth has been around. Our water simply moves continuously through the water cycle.
3. Students will make models of the water cycle to observe how water evaporates, condenses and precipitates.
4. Have each group fill a clear jar about 1/3 the way with water. Place a saucer on top of the glass, and place the ice cubes on top of the saucer. Place the models in a sunny window.
5. Have students look at the models and draw a picture of what they see. Allow the models to sit in the window for a few hours and then draw another picture of observations.
6. Ask students what they notice on the bottom of the saucer. What do the sides of the jar look like above the water line?
7. Have students look at their second drawing of the model. Label drawings with evaporation in an arrow pointing up from the water to the bottom of the saucer, condensation on the

bottom of the saucer, and precipitation on arrows pointing down from the bottom of the saucer towards the water in the bottom of the jar.

8. Ask students if any water left the inside of the glass. Discuss how it was a cycle of water remaining within the model. Compare the Earth's water cycle to the model students made. When water evaporates from the Earth it travels up with the warm air to higher altitudes as water vapor. When the water vapor reaches the cooler temperatures it condenses, and the water molecules cling together forming clouds. (Some students may ask how the air is cooler if it is traveling closer to the sun. Explain the sun's heat is absorbed by the Earth which then radiates the heat-which we feel-back into the air. As we travel further away from the warmth of the ground, the air gets cooler, until you pass out of Earth's atmosphere and approach the sun itself.) As the clouds get saturated with water molecules, they eventually can't hold any more water, and the droplets fall back to the Earth as precipitation (rain, snow, sleet).

Evaluation:

Have students complete worksheet, or draw and label their own picture of the Earth's water cycle.

Answers to worksheet:

1. Cloud or condensation
2. Cloud or condensation
3. Evaporation or water vapor
4. Precipitation
5. Evaporation or water vapor
6. Water source

Name _____

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water source	precipitation	condensation
water vapor	cloud	evaporation

Complete the diagram below using the words in the word box.

