

Activity: Evaporation and Condensation Teacher Instruction Sheet

BACKGROUND

The following demonstration shows how evaporation and condensation are responsible for transport and purification of water in the Earth's water cycle. The key terms are evaporation, transport, and condensation.



MATERIALS

2 tablespoons salt
2 quarts of water
a large glass bowl with tall sides (mixing bowl)
a short glass
clear plastic wrap
rubber band
cotton swabs
a sunny day

PROCEDURE

1. Mix the salt and water in a large bowl.
2. Stand a clean glass in the center of the bowl.
3. Cover the bowl with plastic wrap and secure with a rubber band around the rim of the bowl.
4. Place one rock in the center of the plastic wrap directly above the glass.
5. Allow the bowl to remain in the sun for several hours.
6. Students may confirm that the water in the bowl is salty and the water in the cup is fresh by dipping the end of a cotton swab in the water and tasting (no double dipping!).

FOLLOW-UP QUESTIONS

1. What are the two processes responsible for purifying the water? Answer: Evaporation and Condensation.
2. Where else have you seen condensation? Answer: The outside of a cold drink outside on a hot day.
3. What is the condensation on the plastic wrap analogous to in the Earth's water cycle? Answer: Clouds in atmosphere.
4. What is the dripping of the water into the glass analogous to in the Earth's water cycle? Answer: Precipitation
5. How does this process work on Earth?

VARIATIONS

Add food coloring to water to demonstrate that this process may remove pollutants. This may be done simultaneously with the procedure above.

Add soil to the water to demonstrate evaporation from the land surface. This may be done simultaneously with the procedure above. Do not allow students to taste the condensed water.