



Developed with Linda Roberts

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The water cycle



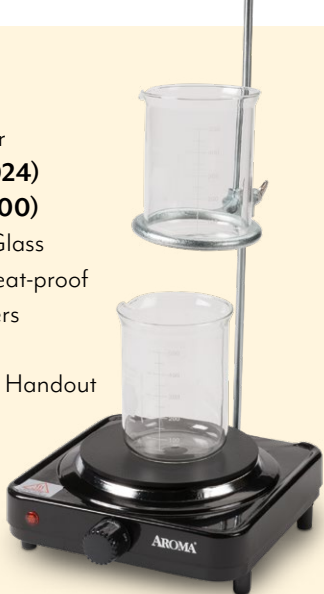
Objectives

Students will...

- Be introduced to vocabulary and concepts for the water cycle, evaporation, condensation, and precipitation
- Think of a way to make water evaporate
- Observe evaporation, condensation, and precipitation during a teacher demonstration
- Apply knowledge from the demonstration to the real world water cycle

Materials list

- Single Electric Burner (hot plate) (WA26024)
- Ring Stand (SB34800)
- 2 KIMAX[®] 600 ml Glass Beakers, or similar heat-proof transparent containers (SA04524)
- Water Cycle Student Handout
- Water
- Ice Cubes



Discussion

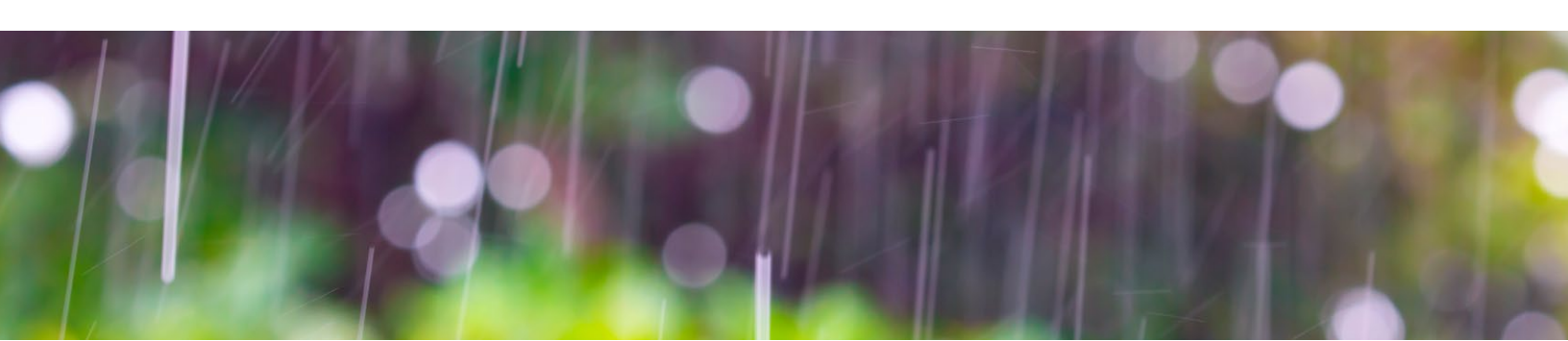
Explain the terms evaporation, condensation, and precipitation.

Demonstrate the words using your hands. Evaporation — wiggle your fingers and raise them up. Condensation — bring your hands together.

Precipitation — wiggle your fingers in a downward motion.

Clear all materials off student tables. Pour a small amount of water on each table. Ask students for ideas on how to make the water disappear or evaporate. Students may not use their clothing or a paper towel to make it disappear. They will probably blow on it or spread it around with their hands until the water is gone. Ask them where the water went. Ask students for examples of evaporation they have seen (clothes drying on a clothesline, puddles disappearing, water boiling on a stove, hair drying after a swim, etc.).

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Discussion cont.

Explain that water goes into the air when it evaporates. Discuss cloud formation. Explain that this is condensation. Ask for examples of condensation students have seen (breathing on a cold window, water collecting on the outside of a glass in the summer, etc.). Have students breathe on their hands to feel the moisture in their breath.

Discuss precipitation. Have students give examples of different types of precipitation, such as rain, snow, sleet, and fog. Ask students what causes rain. After the water evaporates, clouds

form. The clouds become full of water, then the water falls to earth in the form of rain. Explain that other forms of precipitation are dependent on temperature.

Discuss where the water goes when it falls. Students may suggest it soaks into the ground, fills lakes and rivers, and is used by people and animals.

Review evaporation. The water that falls on the ground will eventually evaporate to form more clouds. The cycle continues.

Demonstration

Keep student and teacher safety in mind during the demo. Do not let students come near the equipment.

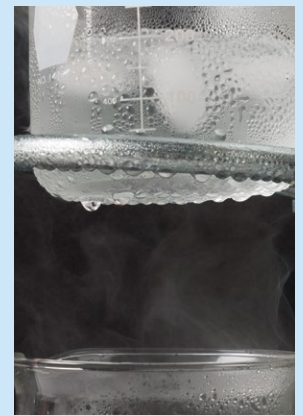
Place a beaker of water on the burner. Put an empty beaker on the ring stand so it is only a few inches above the first beaker. Add ice cubes to the empty beaker. Heat the water on the burner until it boils. Have students repeat that this shows evaporation. Draw their attention to the bottom of the beaker with the ice. They should notice drops forming. Explain that this is condensation. After the drops form, they will begin to fall. This is precipitation. Point out that after the drops fall into the boiling water, they will be heated and evaporate again. Have students practice the vocabulary: evaporation, condensation, and precipitation.



Evaporation ↑↑



Condensation →(←



Precipitation ↓↓

Extension

Give students the Water Cycle handout showing water on the surface of the ground, clouds forming, and precipitation falling from the clouds. Write evaporation, condensation, and precipitation on the board. Have students decide the correct placement of the three words on the handout. Copy the words. Have students discuss the reasons for the placement of the three words.

Assessment

Teacher observation, participation in activities, participation in oral discussions, completeness of written work.

