

Safety: Wear safety glasses or goggles, and be sure to follow all safety instructions given by your teacher. Wash your hands after completing the activity.

ACTIVITY

Question to investigate:

What are the main processes in the water cycle that make it rain?

Materials

- Clear plastic container, such as a medium-size deli container
- Water
- Plastic wrap
- Rubber band
- Snack size zip-closing plastic bag
- Ice cubes (2–3)

Procedure

1. Pour room-temperature water into the clear plastic container so it is about $\frac{1}{4}$ full.
This is a model of a lake or an ocean.
2. Place a piece of plastic wrap over the container. With the help of a partner, use a rubber band to hold the plastic wrap on the container.
This is a model of the level of the sky where most of the weather happens.
3. Put 2 or 3 ice cubes in a zip-closing plastic snack bag. Place the snack bag on the plastic wrap as shown.
This needs to be cold because the area of the sky where weather happens is cold.



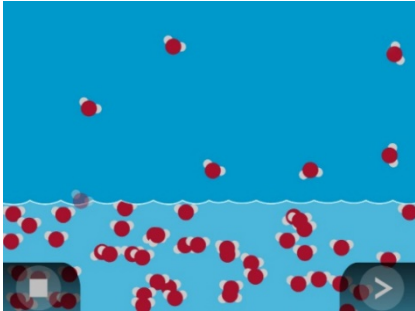
4. If you have a lamp, follow your teacher's instructions to shine it on your model. If you don't have a lamp, carefully bring your model over to a window where it can receive light from outside. *The light is a model of the sun.*

Let your model sit for about 15 minutes. During this time, watch the animations about evaporation and condensation, and answer the questions in "Explain it with Atoms and Molecules" about the animations.

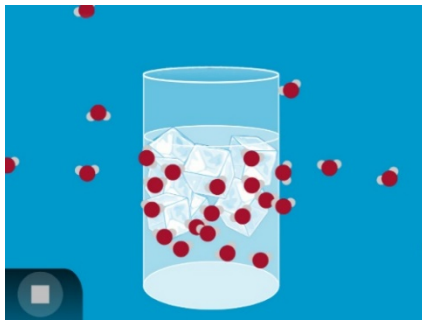
5. Remove the plastic bag with ice from the plastic wrap on top of the container.

EXPLAIN IT WITH ATOMS AND MOLECULES

1. You saw an animation of water evaporating. What happens to water molecules during the process of evaporation? Explain.



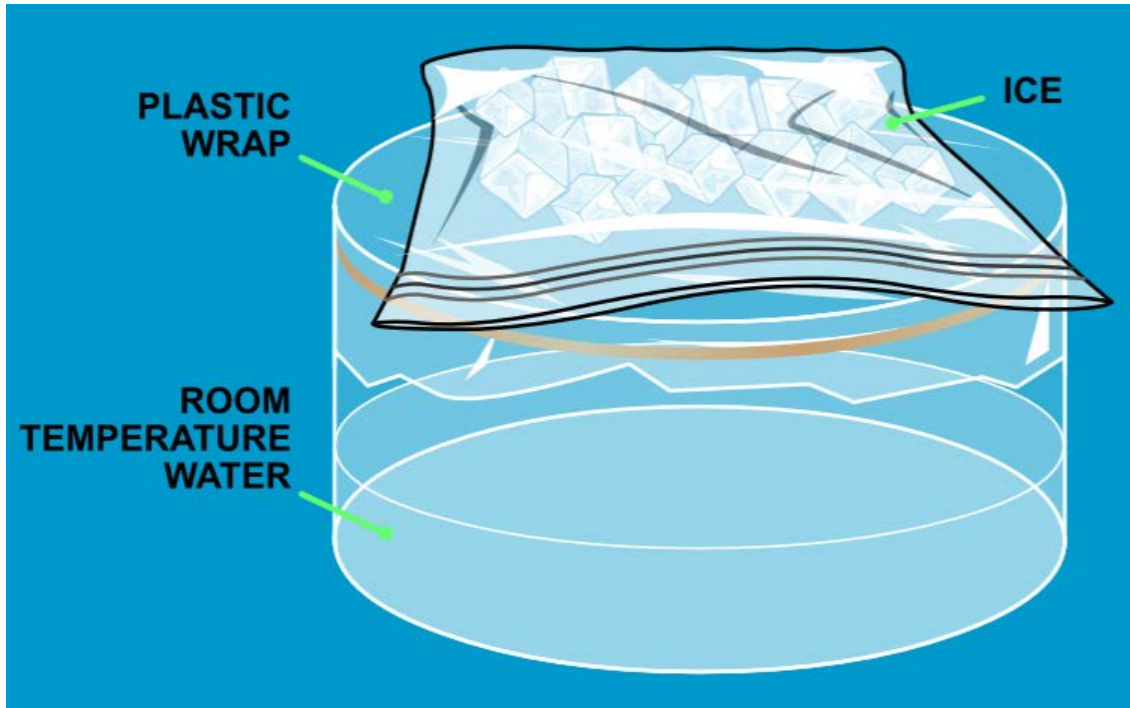
2. You saw an animation about condensation. Explain how water forms on the outside of a cold cup. Be sure to use water molecules in your explanation.



WHAT DID YOU OBSERVE?

3. When you look at your water cycle model after about 15 minutes, what do you notice about the inside of the plastic wrap?
4. Where do you think these water drops came from?

5. You saw an animation of what happens in the water cycle model. On the picture provided, draw molecules evaporating and molecules condensing as part of the water cycle. Label and describe each step with as much detail as you can.



TAKE IT FURTHER

6. You saw a device that can change salt water into fresh water. Describe how this device uses evaporation and condensation to make salt water into fresh water.



Credit: Landfall Navigation