



SOLAR BOWL

See the water cycle in action and discover how it separates clean water from soil and dirt.

Materials

- Large bowl
- Small bowl
- Grass and dirt
- Plastic wrap
- Large rubber band
- A few coins
- A sunny window

Procedure

- Cover the bottom of the large bowl with water.
- Add grass and dirt to the large bowl with the water and stir.
- Place the smaller bowl right side up in the center of the larger bowl.
- Cover the top of the larger bowl with plastic wrap and secure it with the rubber band.
- Place the coins in the center of the plastic wrap over the smaller bowl inside. The plastic wrap should sag down a little bit in the center.
- Place the larger bowl in a sunny window for 20-30 minutes.

Results

The water collected in the smaller bowl in the center, but the soil and dirt were left behind.

Why?

The sunlight warmed the water in the large bowl and caused it to evaporate. The evaporated water rose and came into contact with the cooler plastic wrap, causing it to condense into water droplets. The water droplets rolled down the plastic wrap towards the lowest point, falling into the smaller bowl. The grass and dirt particles are left behind in the larger bowl because they do not evaporate. You may have seen this process in action on the outside of a glass of ice water on a humid summer day. The droplets on the outside of the glass came from water vapor in the air. During the water cycle, water evaporates from the surface of the earth, condenses into clouds, and returns to the surface again as rain or snow. Why might people want to cause this process to occur deliberately?