

SOLAR WATER CLEANER

Materials:

- *Water
- *Large pan or tub
- *Glass shorter than the pan
- *Two small, clean rocks
- *Piece of clear plastic wrap
- *Tape
- *Box with a lid (must be large enough to hold the pan)
- *Foil
- *Salt

Objective: Learn about distillation or a process of getting salt out of water.

Vocabulary words:

Distillation - the process of using heat to boil a liquid to remove impurities.

Instructions:

1. Mix two cups of salt with 15 ounces (1/2 liter) of water. Pour the salt water into a pan to a depth of 2 inches (5cm).
2. Cover the box with foil on the inside and outside. Place the box near the sun. Place the pan of water inside the box.
3. Put the glass right side up in the pan's center and anchor it down with a rock.
4. Cover the pan with clear plastic wrap. Pull it tight and tape it firmly to the pan.
5. Place a rock in the center of the plastic wrap. Be sure not to let the rock touch the glass. Close the lid to the box. From time to time, check to see what is happening in the "still."

How does it work?

The heat from the sun warms the water, allowing it to evaporate, or turn into water vapor. When the water vapor touches the cool plastic wrap, it condenses back into water droplets. Since the salt is heavier than the water, the water droplets do not contain salt. This is called evaporation.

But don't drink the water. The best water for you to drink is clean water from your faucet.

Questions to Ask:

1. What would happen if you had put a black piece of plastic wrap over the pan?
2. How did the water form inside the plastic?
3. Do you think that the pan was made cooler or warmer by being in the box?