



#YGKMUSEUMFROMHOME

THE SOLAR STILL



MATERIALS

WHAT YOU NEED

- Tap water
- Spoon
- Table salt
- A large bowl
- A glass (must be shorter than the height of the bowl)
- Plastic wrap
- A rock

BEFORE YOU START

Check the glass. The glass must be shorter than the height of the bowl.



Check the rock. The rock must be smaller than the bowl. It should fit in your hand. If the rock is too big or heavy, it will break the plastic wrap.



The sun is an incredible star and a source of energy. Let's use the power of the sun and simple items around our house to turn salt water to clean water.



BIG QUESTION

How can we clean water using the power of the sun?



Step by step activity instructions on next page.



BONUS QUESTIONS!

What do you think will happen to the water in the bowl?
Make a hypothesis (an educated guess) about what you think will happen.



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PREPARATION

1. Prepare your supplies.



ADD WATER, ADD SALT

2. Fill one quarter of the bowl with tap water.



3. Add three spoonfuls of salt into the bowl. Stir until the salt is dissolved.



Tip: Our bowl was medium sized. It had 2 cups of water and three teaspoons of salt.

Optional: Take a tiny taste of some of the water.

COVER & PLACE

3. Place a clean, empty glass in the centre of the bowl.

4. Cover the bowl with plastic wrap. Secure it tightly.



5. Carefully move the bowl to a sunny location outside.

6. Place the rock on top of the plastic wrap so it is above the empty cup.



WAIT & WATCH

7. Wait. Return after three hours. What happened? Optional: Taste the water in the glass. Is it salty?

EXTEND:

Leave the bowl in the sun for longer? What happens?
How long do you need to leave it for all the water to evaporate?





THE SOLAR STILL



VOCABULARY

Water Cycle: A process that moves water around the Earth. Learn more about the Water Cycle by watching the YouTube video from the Peekaboo Kidz channel [here](#).

Solar still: a device that uses the sun and the process of evaporation and condensation to clean water.

Molecule: is the smallest unit of a substance that has all the properties of that substance.

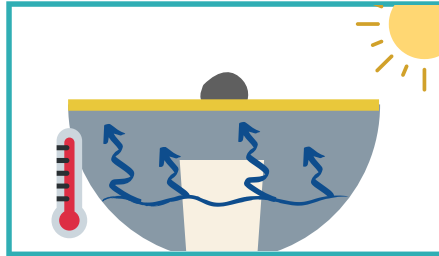
Water Vapour: is the gas state of water

Evaporation: When water changes from a liquid into a gas.

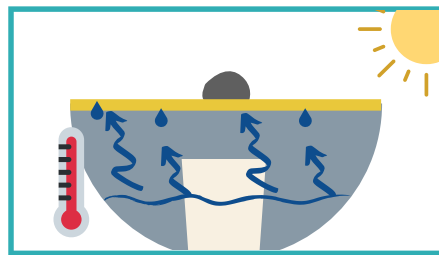
Condensation: When water cools and changes from a gas to a liquid.

WHAT HAPPENS?

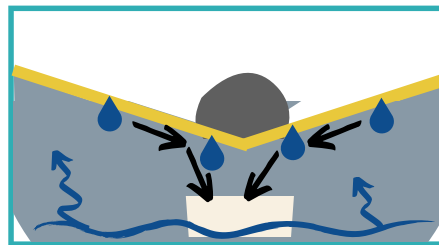
This activity shows us two stages of the **Water Cycle**. Read the steps below to learn the science behind your **solar still**.



The sun heats the surface of the water. The water **molecules** begin to heat up. They move and vibrate very quickly. The surface of the water changes from a liquid into a gas. This gas is called **water vapour**.



The water vapor begins to **evaporate** into the air. It stops at the plastic wrap. Here it **condenses**. The **water vapour** cools and returns to a liquid. This looks like drops of water.



The rock pulls the plastic wrap down into a point. The water droplets move to the lowest point and collect. They drop into the glass.

WHERE IS THE SALT?

When the water **evaporates**, it leaves other particles, like salt, behind. That's why the water in the glass does not taste salty! Leave the bowl in the sun long enough and you will see salt crystals in the bottom of the bowl.



EXTEND:

Learn the water cycle dance [here](#) from the YouTube Channel, GoNoddle, and get moving!