



SUPER POWER: Bring the rain!

WATER CYCLE

LAB NOTES...

The Water Cycle...

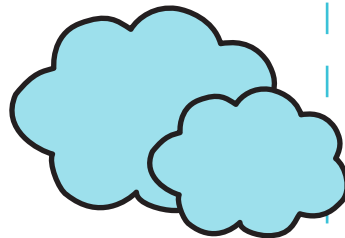
But did you know that all water and weather in the world is connected, and is constantly flowing through a gigantic cycle of rain, rivers, oceans and clouds? That's right, rain actually comes from the ocean. We call it the "Water Cycle" and it's going on all around us every single day.

In this experiment, we used warm water to show us what happens when the sun heats up the sea on a sunny day. The warm water at the surface of the ocean turns into water vapour, which is a bit like the steam you might see coming out of a kettle or cooking pot. It's basically lots of tiny drops of water, too small for us to see. We know that hot air rises, and when it does, it takes the water vapour with it. The salt in the ocean is too heavy, so it gets left behind. We call this "evaporation" and it's happening inside your experiment all over the surface of the salty water.

High up in the air, it's much colder than down here. When the water vapour meets the cold air, it cools down, and lots of tiny drops of water start to clump together. Eventually, they get big enough for us to see them as clouds. This is called condensation. You might be able to see condensation on the underside of the plastic in your experiment. You might also see condensation on the walls and windows of a steamy bathroom, or inside a kitchen when someone is cooking.

Eventually, the clouds become so full of water, and the clumps of water become so heavy, that they can't stay up in the sky any more, so they fall to the earth as rain. Wind moves rain clouds around the earth, so even though they may have been made over the ocean, rain can fall anywhere. This is happening in your experiment as droplets of water run down the cling wrap towards the weight in the middle, and drip into the smaller container.

Once rain has fallen, water runs downhill into our drains, into rivers and lakes, and some of it goes underground. Eventually, it ends up back in the ocean and the whole cycle starts over again.



BUILD AND WAIT
25
MINS

TO MAKE YOUR WATER CYCLE...

1. Watch the video of Nanogirl showing you the water cycle
2. Pour some hot water into the larger container until it is just a few centimeters deep. You might need an adult to help with hot water.
3. Add some salt into your water, and stir it in until it's all dissolved. This is your ocean.
4. Wash your hands, then dip one finger in the water and taste it. It should be salty like the ocean!
5. Place your smaller container in the middle of the larger one. This will be your island in the middle of the ocean. Be careful not to get any water in this one!
6. Cover the top of the container with food cling wrap, if it doesn't seal tape it down.
7. Place a small weight in the centre of the food wrap.
8. Use the pen to draw some cloud shapes on the cling wrap.
9. Wait 10 minutes and you should be able to see condensation or a cloudy surface on the underside of the plastic. (Leaving in a hot hot sunny space will help)
10. Some of these water droplets will drip into your small bowl if you wait long enough.
11. Carefully peel back the cling wrap.
12. Wash your hands, then dip your finger into the small container and taste the water drops in there. Is it salty like the sea?

YOU WILL NEED

- A large glass bowl
- A bowl small
enough to fit in the larger one
- Food wrap or recycled soft ...
plastic packaging
(large enough to over your larger container)
- Scissors
- Tape.....
- A felt tip pen.....
- Something small and.....
heavy as a weight
(e.g. bluetack, pebble)
- Salt
- Spoon.....
- Hot water.....

Is the water in the small container salty like the sea? Why do you think this is?

Take a look at the top of your plastic wrap, can you see the droplets of water vapour clumping together forming bigger droplets?

Where else in your home can you see condensation?

How do you think this experiment might be helpful if you lived on a desert island?