

# Our Blue Planet

by Bronwen Wall

There's something special about the planet we live on. Most of its surface is covered in water. There's so much water that people sometimes call it "the blue planet".



If you look at Earth from space, you can see why it's known as the blue planet.

## Magic water

Water is amazing – it can change its form like magic! And it changes form all the time.

Water can be:

- liquid like the water in rain, rivers, lakes, and the sea
- solid like the ice in glaciers, icebergs, hail, and snow
- gas (called water vapour), which is invisible.



Liquid water changes to solid water when it gets very cold and freezes. It can change back into liquid water when it warms up again and melts.

Liquid water can also change to water vapour when it warms up some more. This change is called evaporation. Water vapour is made up of droplets of water that are so tiny they are invisible. (The steam we see when we boil water is not water vapour. Steam is made up of liquid water droplets that are small but still big enough to see.)

We can't see or feel water vapour, but it's still there in the air. When water vapour cools, it changes back into liquid. This change is called condensation.

Breathe onto a cold glass and watch it fog up. Now take your finger and draw a picture on your foggy glass. Is your finger wet? That's the warm water vapour from your breath condensing on the cold glass.



## The disappearing act

You've just made water appear by breathing onto something cold. Now let's see if you can make water disappear.

### You will need:



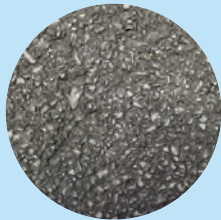
a container of water



a piece of chalk



a watch



an area of concrete (outside)



a fine day!

### What to do:

1. Find a space on the concrete.
2. Carefully pour a small puddle of water onto the concrete.



3. Use the chalk to draw around the edge of the puddle.



5. Check the puddle after five minutes.



4. Note the time.



6. Draw a new line around your puddle.

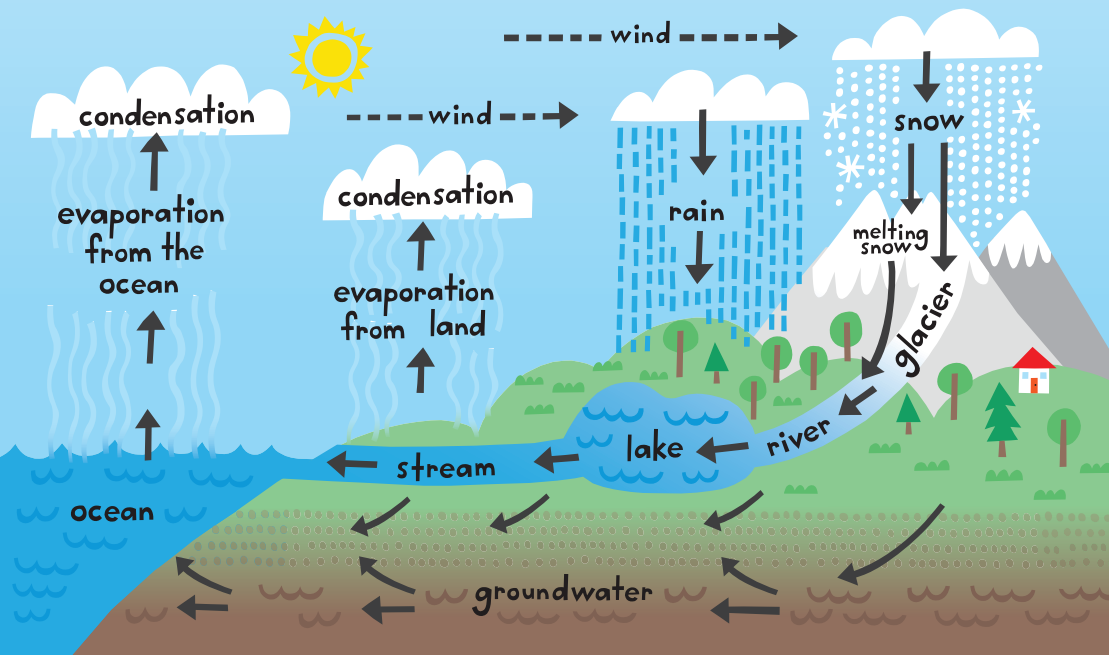
7. Talk with a partner about what has happened to your puddle. Discuss possible reasons why it happened. Check your puddle again. What has happened now?

## The water cycle

The water on Earth is always changing and moving. We call this the water cycle. It works like this.

The sun heats liquid water on Earth. Some of this water evaporates, changing into water vapour. Water vapour is very light. It rises high into the sky, where the temperature is cooler. As the water vapour cools, it changes into liquid water droplets (condensation). The water droplets collect in clouds. When the water droplets become too big and heavy, they fall back to Earth as rain (or if the droplets get very cold, as hail or snow).

Some water falls into rivers, lakes, or the sea. Some water falls high up in the mountains as hail or snow. Some water falls onto the ground. It might flow across the surface of the ground and into a stream or river, or it might soak deep into the ground. This water (called groundwater) makes its way slowly through the rocks and soil and out to a river or the sea.



## Taking care of our water

Hang on a moment – if there's so much water on our planet, why do we have water shortages? It's because almost all the water on Earth is sea water, and sea water is salty. We can't drink it. We need fresh water, and most of the fresh water on Earth is frozen in icebergs and glaciers. A lot more of it is under the ground, and some fresh water hangs in the air as clouds or mist. Only a very small amount of fresh water is available to use, and that water must be shared between humans, other animals, and plants.

So, fresh water is very important. It is a taonga – a treasure. We need to take care of it so there will always be enough. Fresh water means life for all the living things on Earth.



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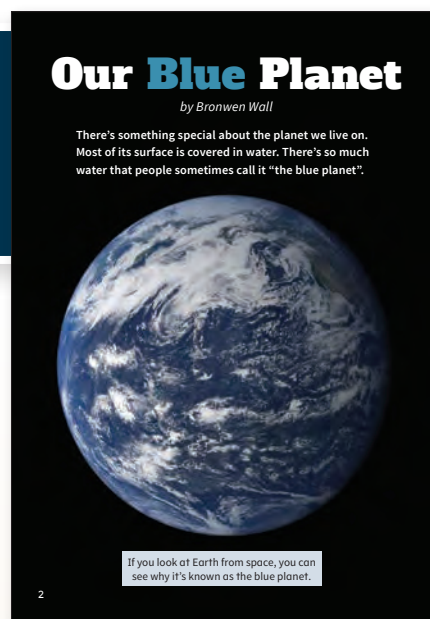
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