

THE WATER CYCLE



Water is a constant traveller around the planet.

WATER IS ONE OF THE FEW SUBSTANCES ON EARTH THAT CAN BE FOUND IN 3 STATES:

- 💧 **Solid** - as ice and snow
- 💧 **Liquid** - as rivers, streams and oceans
- 💧 **Gas** - as water vapour in the air all around us.

70% of the earth's surface is covered in water, with most of it being in the oceans and seas and therefore salty. Only 3% of all the water is fresh and 2% of that is locked in the polar ice caps. This makes water a very precious resource.

THE WATER CYCLE

The pull of gravity, electromagnetic forces and the sun's energy keeps water moving continuously around the world.

We call this the water cycle. There is no new water, we use the same water as the dinosaurs. The same water has been moving over, on and under the earth's surface since the earth was created.

WATER VAPOUR



The sun's energy heats water in oceans, streams, lakes, soil and vegetation and it evaporates into the atmosphere. The sun also causes snow and ice to melt high in the mountains forming streams and rivers.

Energised by the sun, winds and air masses flow around the globe carrying the evaporated water known as water vapour with them. As the water vapour rises into the air its temperature falls and the water vapour condenses into tiny droplets that form clouds or fog. When these get too heavy the water then falls as snow, rain and hail (this is known as precipitation).

Water often falls from the sky many kilometers from where the clouds originated. About 77% of the rainfall over the surface of the earth falls into the oceans and seas.

DID YOU KNOW?

Fog is a cloud that is in contact with the ground.

THE WATER CYCLE IN BRITAIN

In Britain we have many hills and these help push the clouds upwards, consequently these areas have plenty of rain.

However, in the drier south of Britain, the land is flatter and the climate drier so there is less water for us to use. The rain that falls may filter into the ground to form ground water. The water that doesn't soak in collects as run-off which enters into streams and rivers that flow back to the sea.

Some water in the ground may return directly to the atmosphere by evaporation from the soils surface. Some is absorbed by plants and returned to the atmosphere by evaporation from the leaves. This is called transpiration. Through infiltration, water can go into underground lakes where it can stay for hundreds of years.



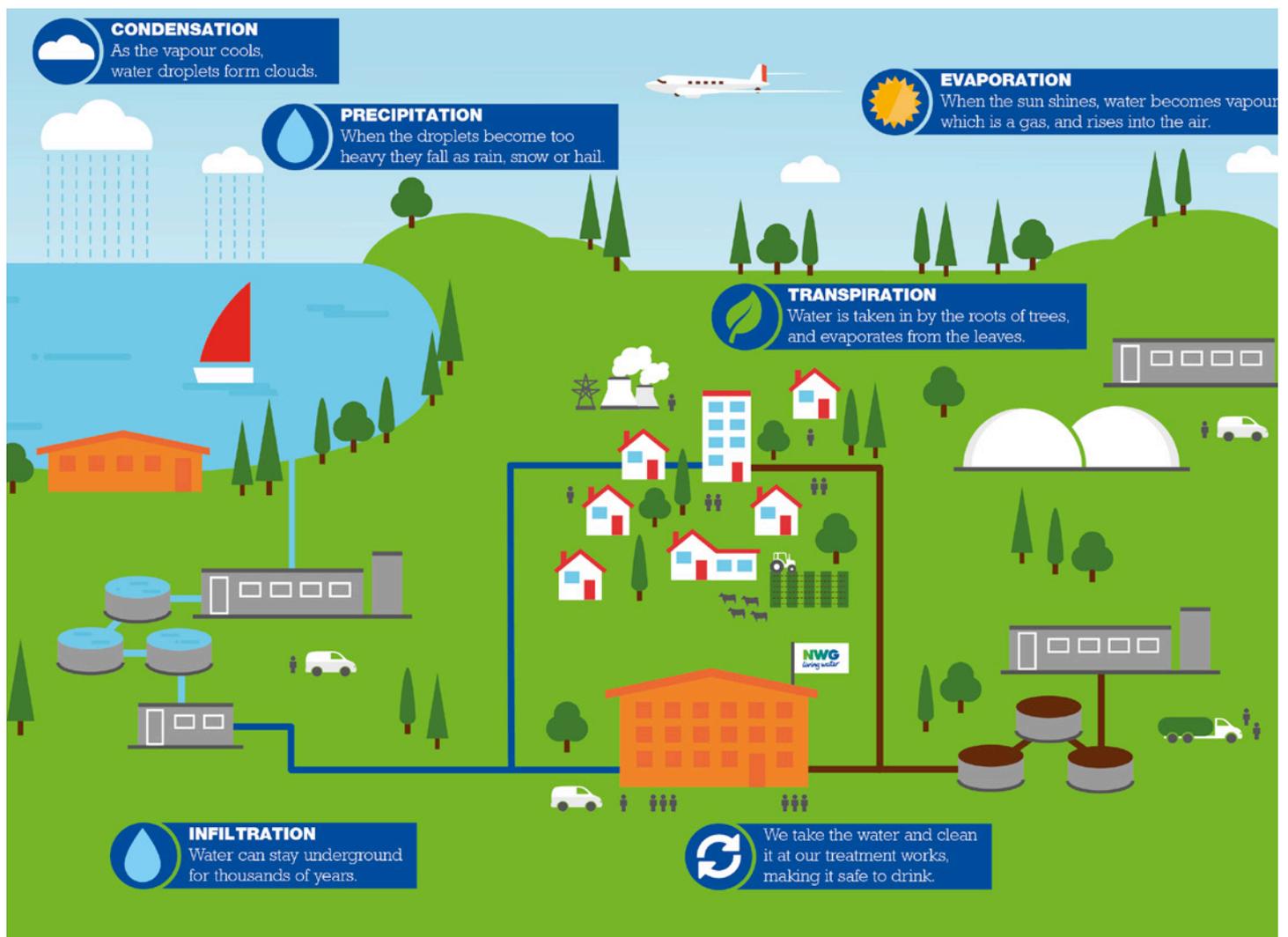
Flowing water carves out rock, alters boundaries between land and sea and scours the landscape when it is frozen in the form of glaciers.

WATER IS PRECIOUS

Water is so much a part of us and our routines that we often take it for granted and forget that water - a gift of nature - is life.

There is a limited amount of fresh usable water on earth.

Fortunately the water is naturally recycled through the water cycle. As your water company we tap into this natural water cycle and clean the water so that it is safe enough for you to drink and after it has been used it is cleaned again so that it can be safely returned to the environment to rejoin the water cycle.



Contact Northumbrian Water at partnerships@nwl.co.uk for more educational resources.