

# Understanding the Water Cycle

## PURPOSE:

To create an understanding of what happens to the water in a catchment, where it comes from and where it ends up.

## WHAT HAPPENS TO THE WATER IN A CATCHMENT

We can learn more about the processes in a catchment by looking at the water cycle. You may not realise it, but the water we use today is the same water that has been here since the world began billions of years ago. Water is recycled over and over again and we will never have more, or less water than we do now.

The Water Cycle is a very simple, natural cycle of evaporation, transpiration, condensation, and precipitation where water is continuously circulated between the Earth and the atmosphere.

**Evaporation** occurs when solar energy from the sun heats up millions of litres of water from the oceans, rivers, lakes and soils, turning it into water vapour or steam.

Water can also enter the air through **transpiration**. This is when moisture is lost through the leaves of plants.

Water vapour is so light it rises into the atmosphere, cooling as it rises higher and higher until it starts to condense, becoming droplets of water once again and forming into clouds. This process of change is called **condensation**. You can see condensation occur when you pour cold water into a glass. The droplets of water that form on the outside of the glass are formed when the water vapour in the air touches the cold glass and turns back into its liquid state.

In the atmosphere, when the water droplets become heavy enough, gravity takes over and they fall back to Earth as **precipitation**. This can be in the form of rainfall, snow, hail or fog, falling directly into oceans, creeks, rivers or lakes, or into catchments, soaking into the ground, being taken up by plants, or making its way into waterways as runoff.

And the cycle begins again.

**REMINDER!!!** Did you find your **key words** for this activity?

PAGE 1

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## ACTIVITY

Match the words to the correct meaning

### Precipitation

The formation of clouds as water vapour turns into water droplets

### Evaporation

The flow of water across the land

### Condensation

Underground water storage

### Transpiration

Water droplets falling from clouds, rain

### Run-off

Water entering the air through the pores of trees and plants

### Infiltration

Water turning into vapour due to heat

### Aquifer

The top of the aquifer

### Watertable

The movement of water through the soil and into the quifer

## ACTIVITY

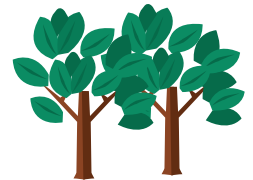
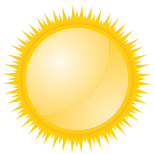
The water cycle

Now that you know what the Water Cycle is and how it works in a catchment you can make your own Catchment Water Cycle.

**Step 1 -** Cut out the pictures below (from your photocopied sheet)

**Step 2 -** Look at the Catchment Base drawing on the next page and glue your cut out pictures in the most appropriate place.

There are clues on the Catchment Base to help you place the pictures in their correct position.



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## CATCHMENT BASE

