





## Rain

### The Water Cycle

The Water Cycle is the journey water takes as it circulates from the land to the sky and back again. It has four main stages:

Stage	Explanation	Diagram
<b>Evaporation</b>	When the sun shines brightly, water from the rivers, lakes and seas turns into water vapour.	
<b>Condensation</b>	The water vapour rises high into the sky where it cools to form a cloud.	
<b>Precipitation</b>	As the cloud fills up with more and more droplets, they fall to the ground in the form of rain, hail, sleet or snow.	
<b>Runoff</b>	The water is stored on the land and in rivers, lakes and seas. The water cycle then starts all over again.	

### Rain and Clouds

Rain falls from different types of clouds.

Showers come from **convective clouds** and **cumulonimbus clouds**.

Showers are usually short bursts of rain. Between showers, the sun comes out.

Longer, steady spells of rain form **stratiform clouds**.

### Raindrops

Rain can be light, medium or heavy!

Raindrops are usually larger than 0.5mm in diameter.

Drizzle is smaller than 0.5mm in diameter.

## How do we measure rain?

We use an instrument called a **rain gauge** to measure rainfall.

A rain gauge consists of a funnel, a glass collecting jar and a copper can.

The glass-collecting jar is placed inside the copper can and then the can is sunk into the ground.

The rain falls into the funnel and then collects in the glass jar.

The gauge has a measuring cylinder which measures the amount of water collected in the glass jar in millimetres.



## What is a Flood?

Flooding occurs when there is an overflow of water on land.

When heavy rain falls over a short time, rivers can break their banks.

This can cause roads, houses and shops to flood.

**Flash floods** happen when it rains heavily over a very short period of time.

## What is a rainbow?



Rainbows occur when the sun shines through water droplets in the air.

These water droplets bend the sunlight and separate it into seven colours.

These colours are red, orange, yellow, green, blue, indigo and violet.

## Snow and Sleet and Hail

**Snow** crystals form when water droplets in clouds become very cold. The snow crystals fall from the cloud forming snow-flakes. The air below must be freezing or the snowflake will melt and turn to rain.

**Sleet** is a mixture of snow and rain. It is not light and fluffy like a snowflake.

**Hail** is hard frozen rain. It is usually the size of a pea, but sometimes grows as large as a golf ball! Hail can fall from the sky at any time of the year, not just during winter.

