Extreme Earth

Learning Objective:

To find out about the water cycle and the distribution of water around the world.

NEXT

Where does **rain** come from?

Discuss your ideas.

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All the water in the world rises from the Earth's surface and falls back to the ground in a continuous cycle which is driven by the sun's energy. Water that falls back to the ground is called **precipitation** and can be in the form of rain, snow, hail or sleet.

Have a look at the diagram of the water cycle on the next slide. Can you describe what is happening to a partner?

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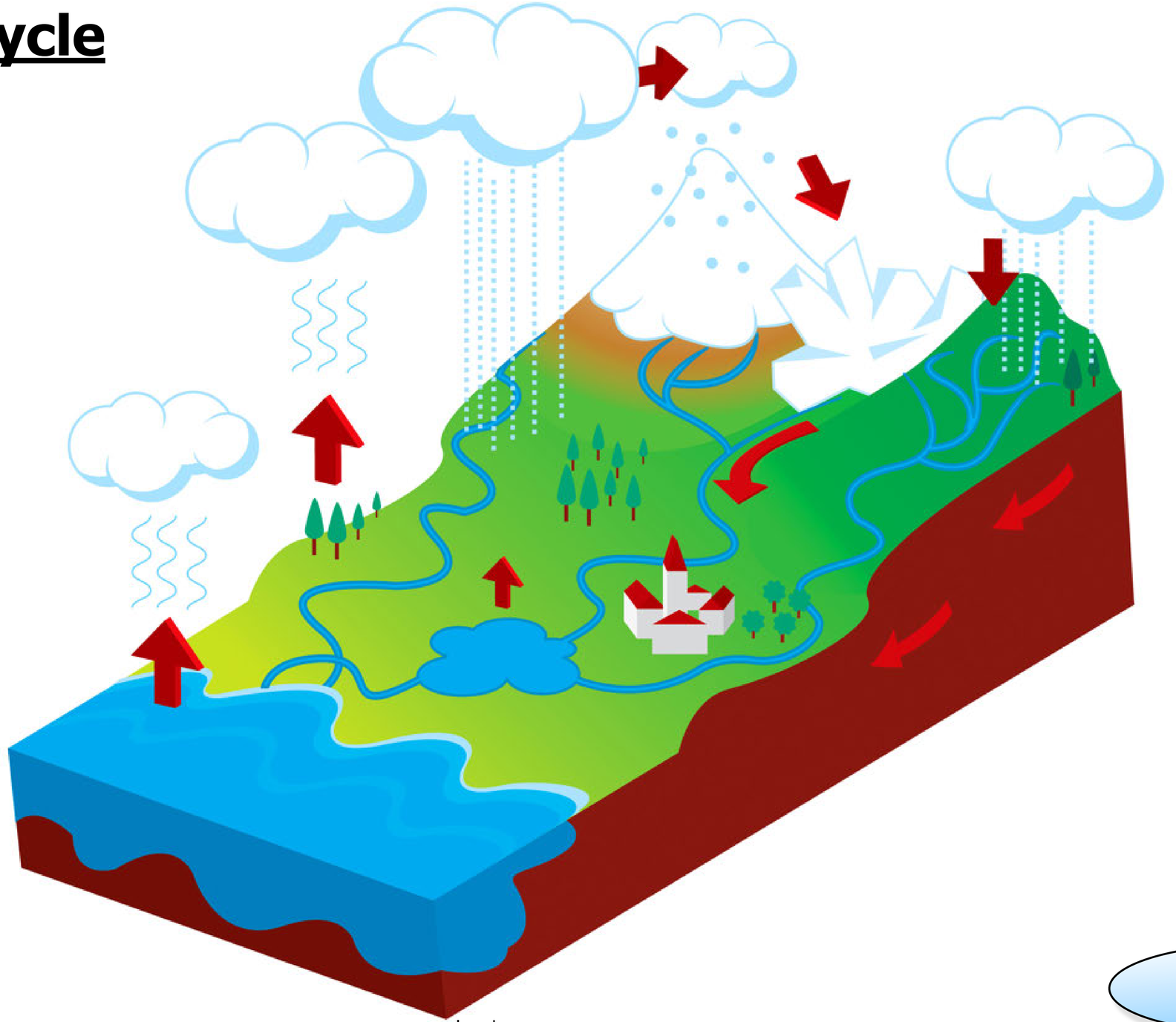
The Water Cycle



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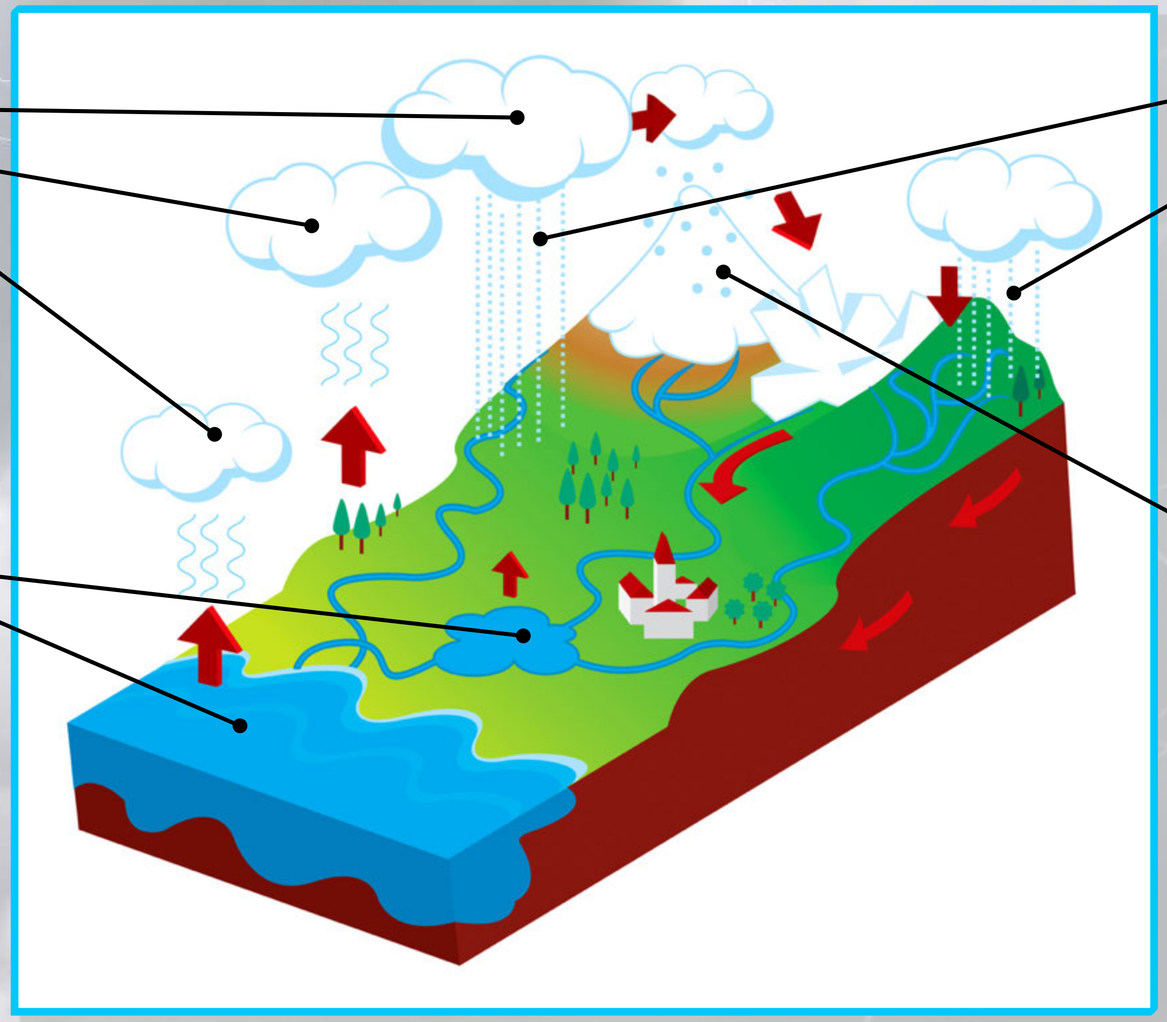
The water cycle principally works through a process of **evaporation** and **condensation**. Heat causes water to evaporate and turn into vapour which rises to form clouds. When the water cools, it condenses and turns back into a liquid which falls as rain.

Water vapour cools as it gets higher in the atmosphere.

The heat from the sun causes water to **evaporate**.



The water vapour **condenses** and falls as **precipitation**.

In colder conditions, the water will fall as a solid (snow) instead of rain.

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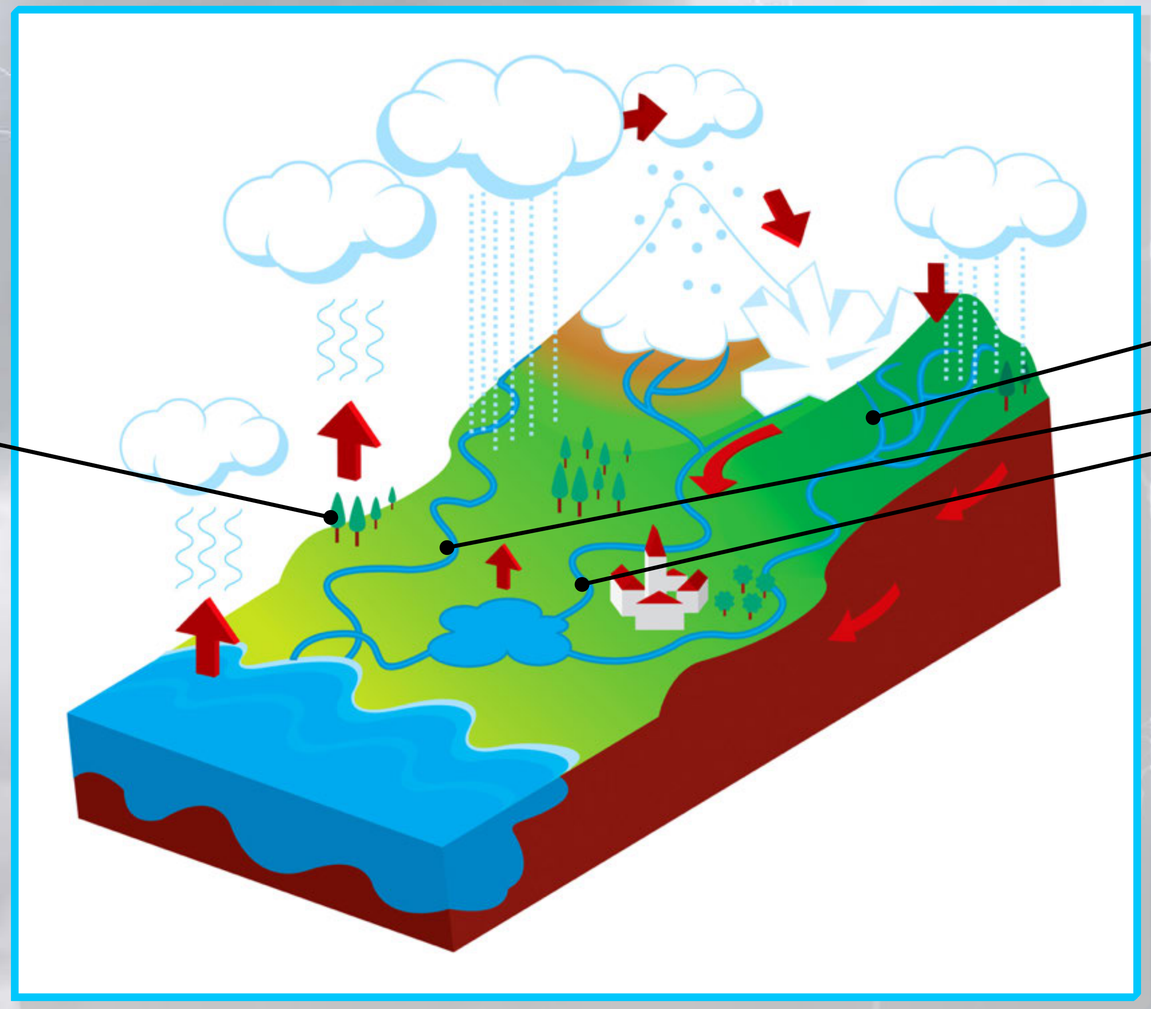
Plants also release water vapour through a process called **transpiration**. This vapour also becomes clouds. Much of the precipitation that falls in mountains runs down in streams and rivers. Eventually, these all lead back to the ocean.

Plants release water vapour through **transpiration**.



Much of the water on higher ground will run down towards the sea in streams and rivers.

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These rivers have completely dried up because it hasn't rained for months. Why do you think some places get more rain than others?

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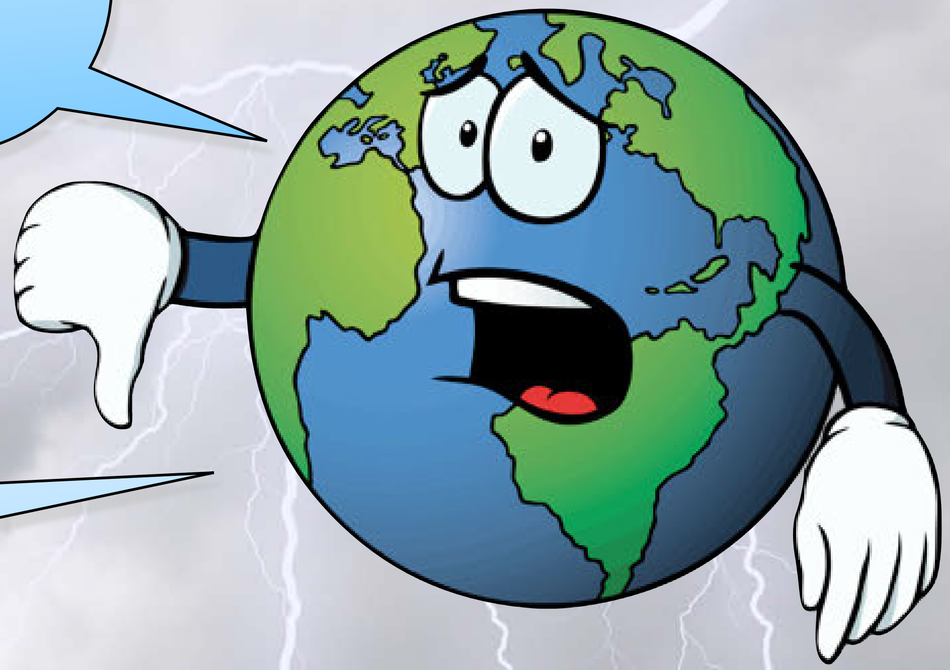
Do you know what a **drought** is?



What do you think causes a drought?

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A drought is a temporary water shortage. Droughts can happen in any part of the world. In richer countries, a drought may just mean that people have to use less water. Hose pipe bans are a common way of tackling drought in western countries.

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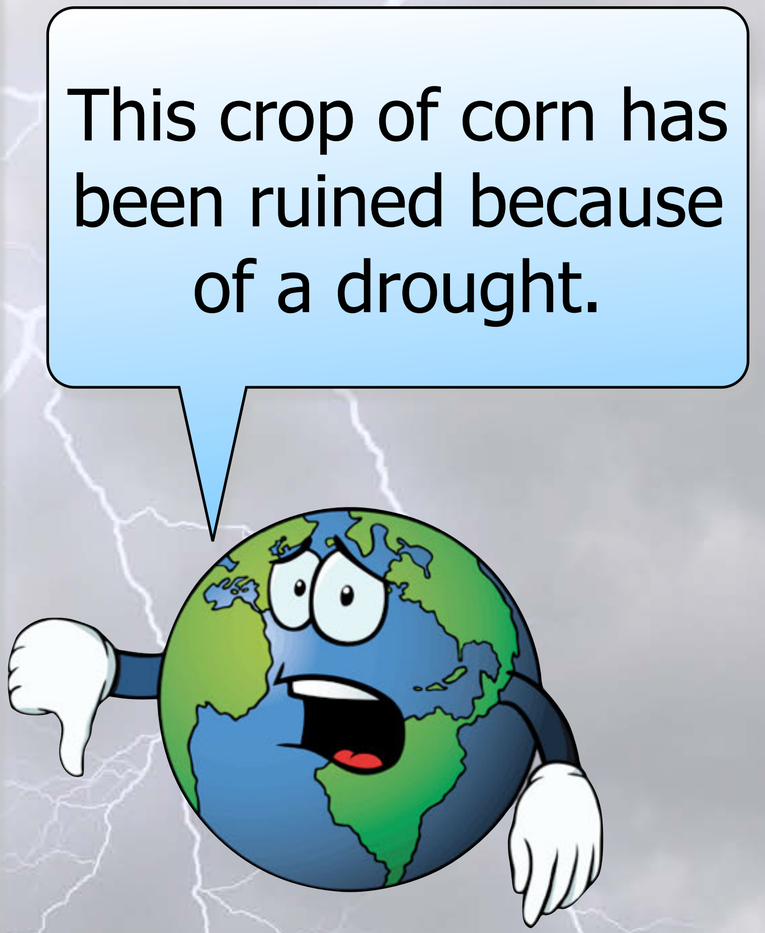
In developing countries, however, drought is a much more serious threat. Lack of rain causes crops to fail, animals to die and drinking water to become scarce. The effects of droughts can kill thousands of people.



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Another danger with drought is the threat of forest fires. When an area has had no rain and the plants and trees become dry, they become extremely combustible. This devastates the landscape, causes animals to lose their homes and kills both animals and people.

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There are lots of different causes of drought. Changes in wind patterns can move clouds and moisture through the atmosphere so that an area might not get any rain for a few weeks or months. If there are no clouds (or not the right type of clouds) there is no rain.

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Droughts can also be caused by humans. If crops and trees are removed from an area, the soil cannot retain moisture which increases the problems of a water shortage. Dams in rivers can be another reason for droughts. They can be useful for making sure fields in the area have enough water but they can cause problems downstream by not allowing enough water to flow.

Can you spot the dam in this photo?

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