

Investigating Rivers

Learning Objective:

To understand and explain the water cycle.



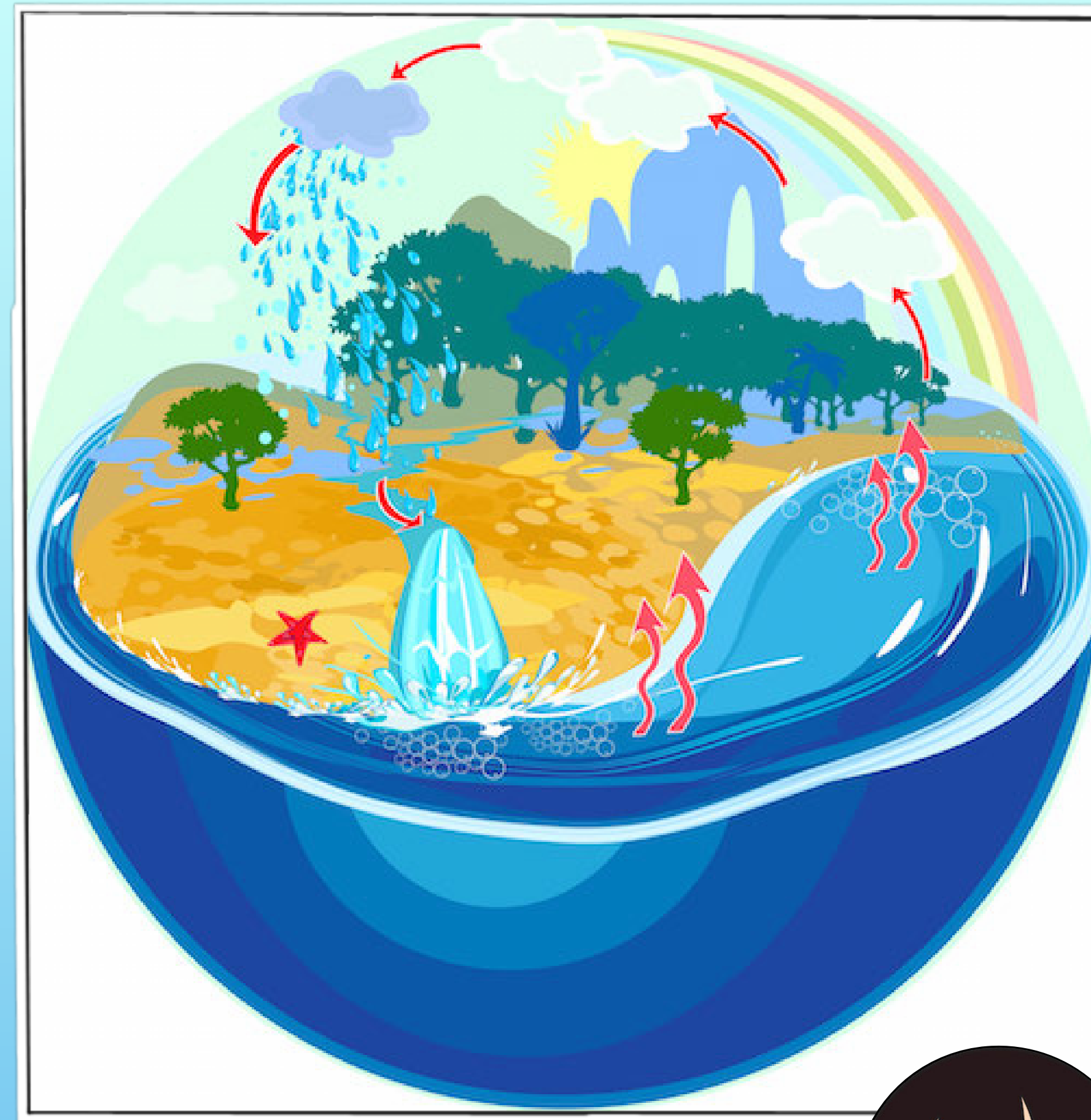
Do you
know what the
water cycle is?
Why is it
important?

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The water cycle is a naturally occurring process. It is the way water moves around our planet. Without this cycle of water, plants would not grow and humans and animals would not survive.

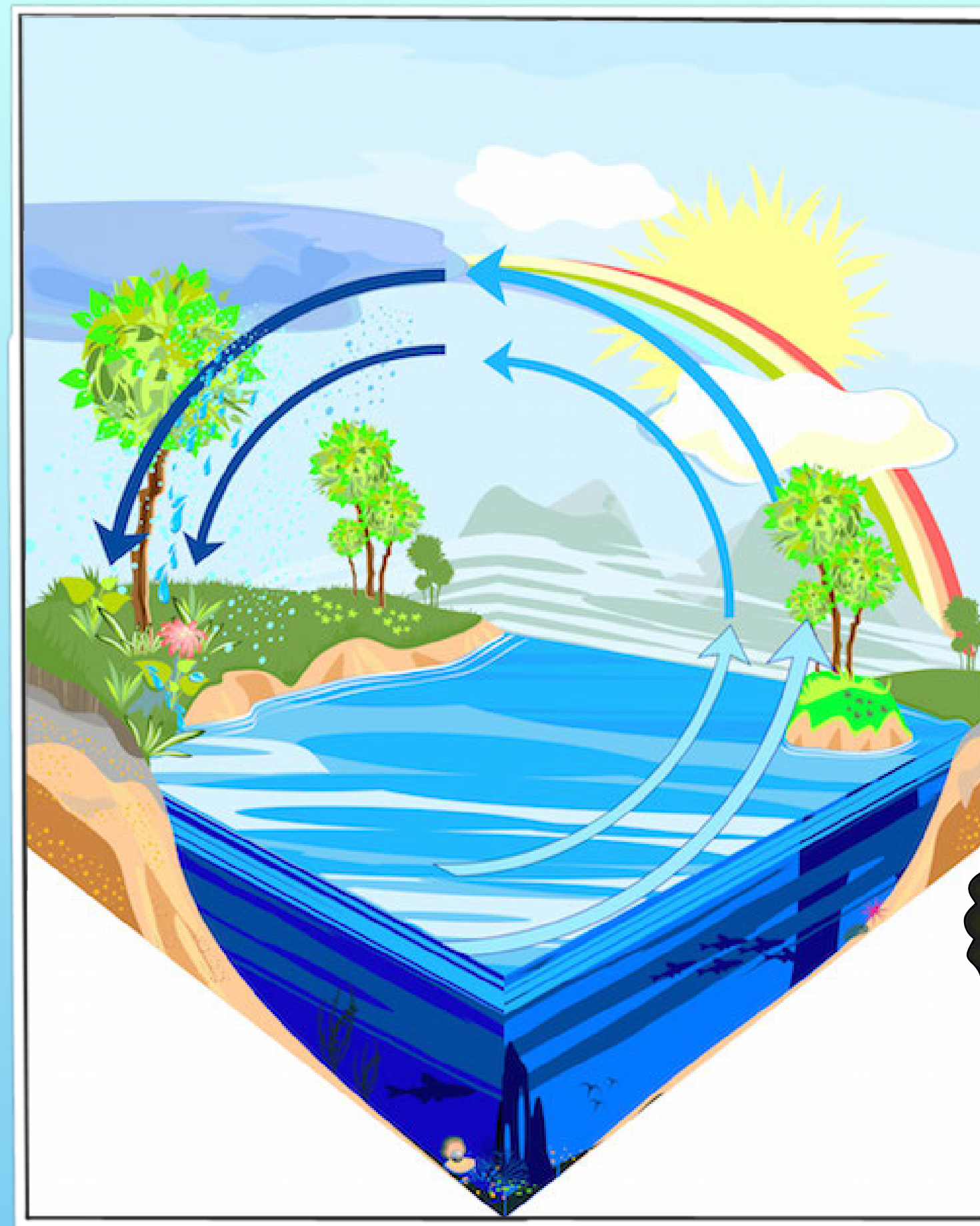


I wonder how this cycle works?



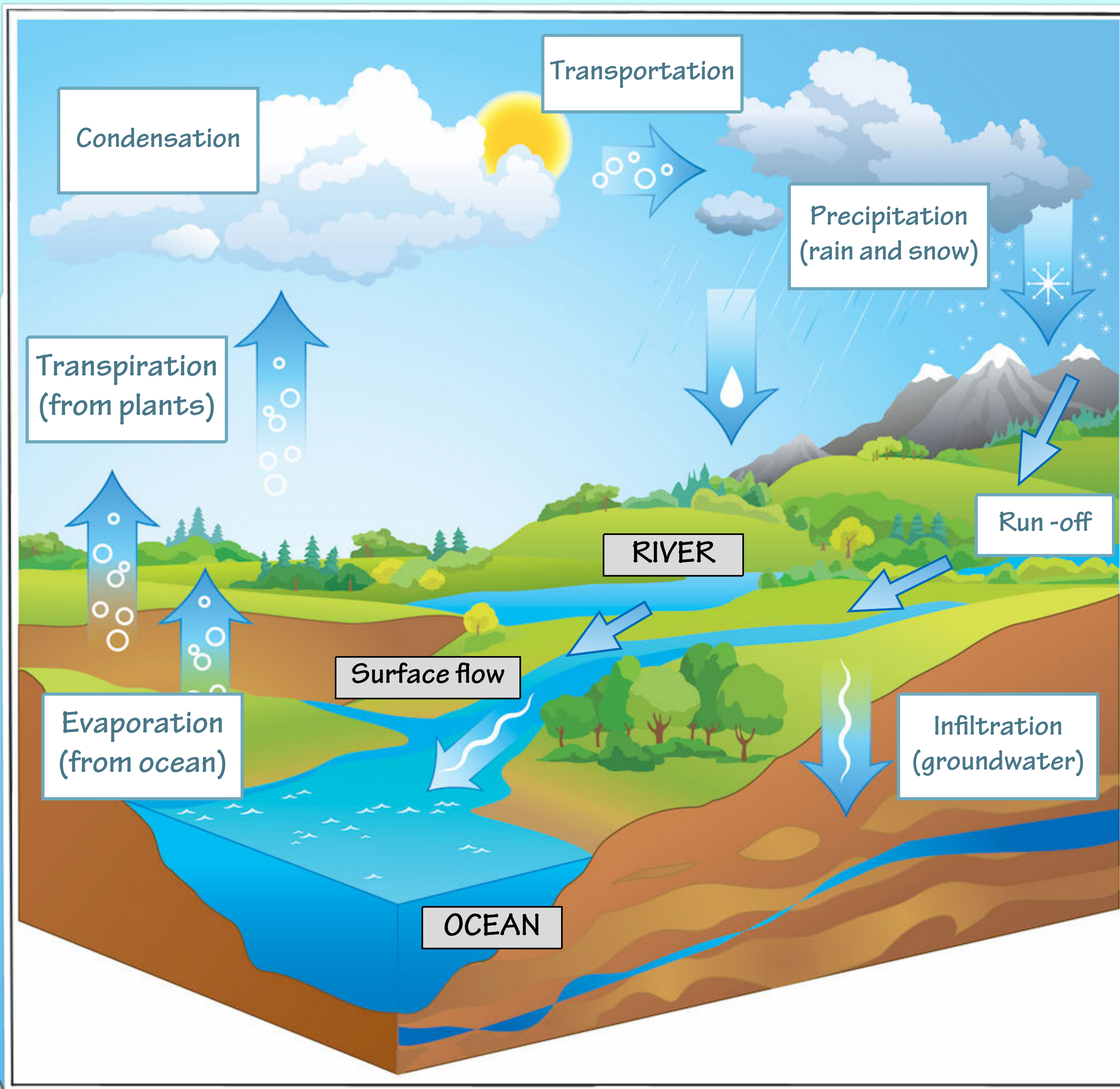
Another name for the water cycle is the hydrological cycle.

The reason it's called this is because the word hydrology means 'the study of water'. Hydrological means the study of the movement and distribution of water on Earth.



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This is the water cycle.
Do you understand what these words mean?

Precipitation
Infiltration
Evaporation
Transpiration
Condensation
Transportation

Here are the definitions of the words in the water cycle. Did you get any correct?



Precipitation: Small droplets of water or ice (snow) form in the clouds. These droplets get heavy and then FALL to the Earth.

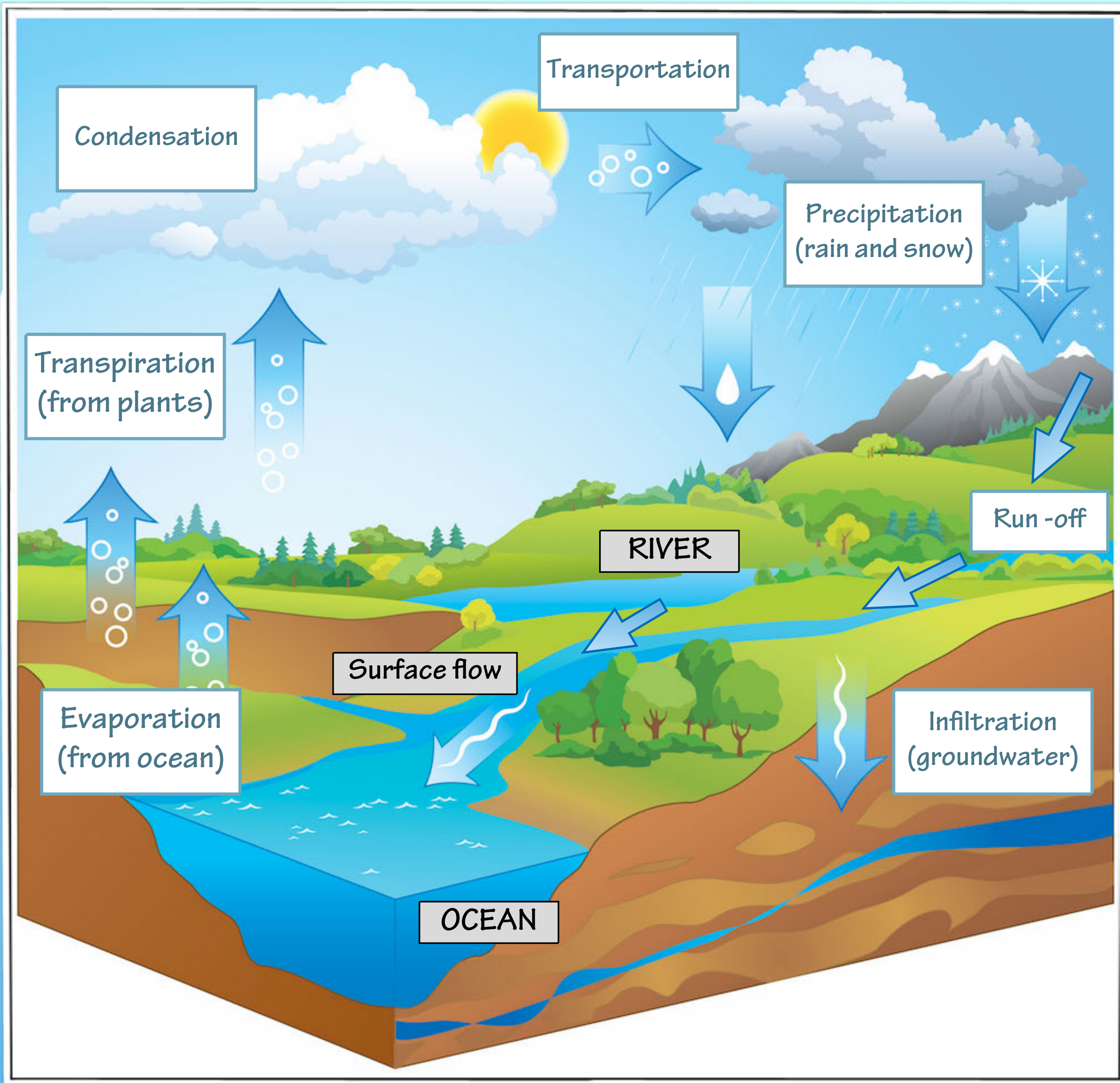
Infiltration: Rain water soaks into the ground through soil and rock layers. The water also RUNS OFF the mountain and collects in rivers.

Evaporation: Liquid (water) changes from a liquid to a gas as it warms up. The gas then rises into the air as water vapour.

Transpiration: Water in the leaves of plants gets warm and evaporates (turns to gas). This releases water vapour into the air.

Condensation: Water vapour (water as a gas) cools down and turns back into a liquid, forming water droplets.

Transportation: The water in the clouds moves across the earth and back over to the land.



Now you know what the words mean, can you explain the water cycle to a partner? Start with **PRECIPITATION...**



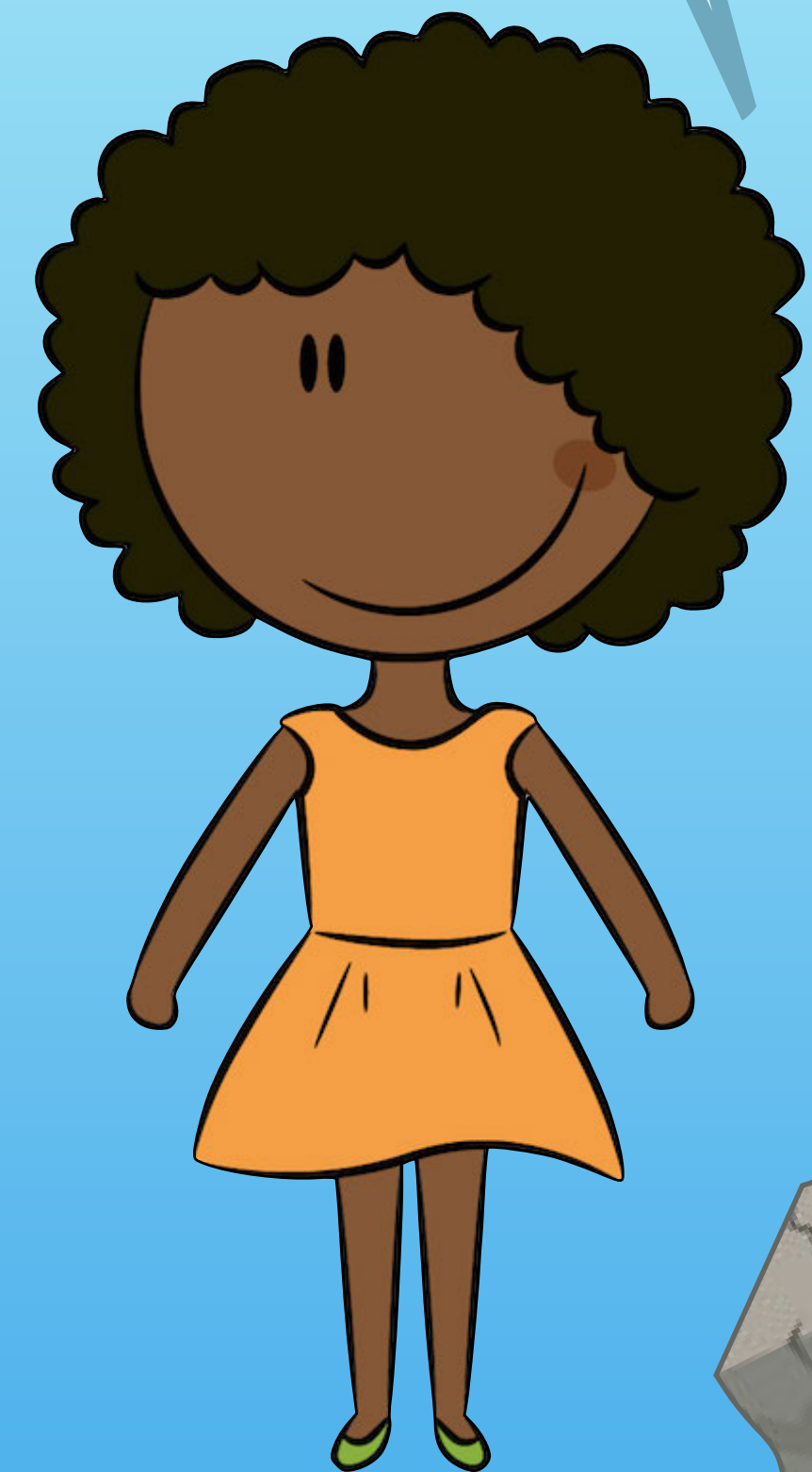
When precipitation occurs water falls from the clouds to the Earth. Most of the precipitation soaks into the soil and filters down into the Earth. The water collects and becomes groundwater. This is called infiltration

Some precipitation runs off the mountains and hills and goes into rivers and streams.

Rivers travel across the land to oceans or seas. Water in the ocean gets warm and turns into gas. This evaporates into the air. Plants also release water and that evaporates into the air too. This is called transpiration.

The gas in the air gets cold which turns it back to liquid. This liquid is stored in clouds. The clouds transport (move across the sky) back to the land. Then the cycle starts again.

Did
you say
something like
this?



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So, how
and why do
rivers play a vital
role in the water
cycle?



Think, pair, share

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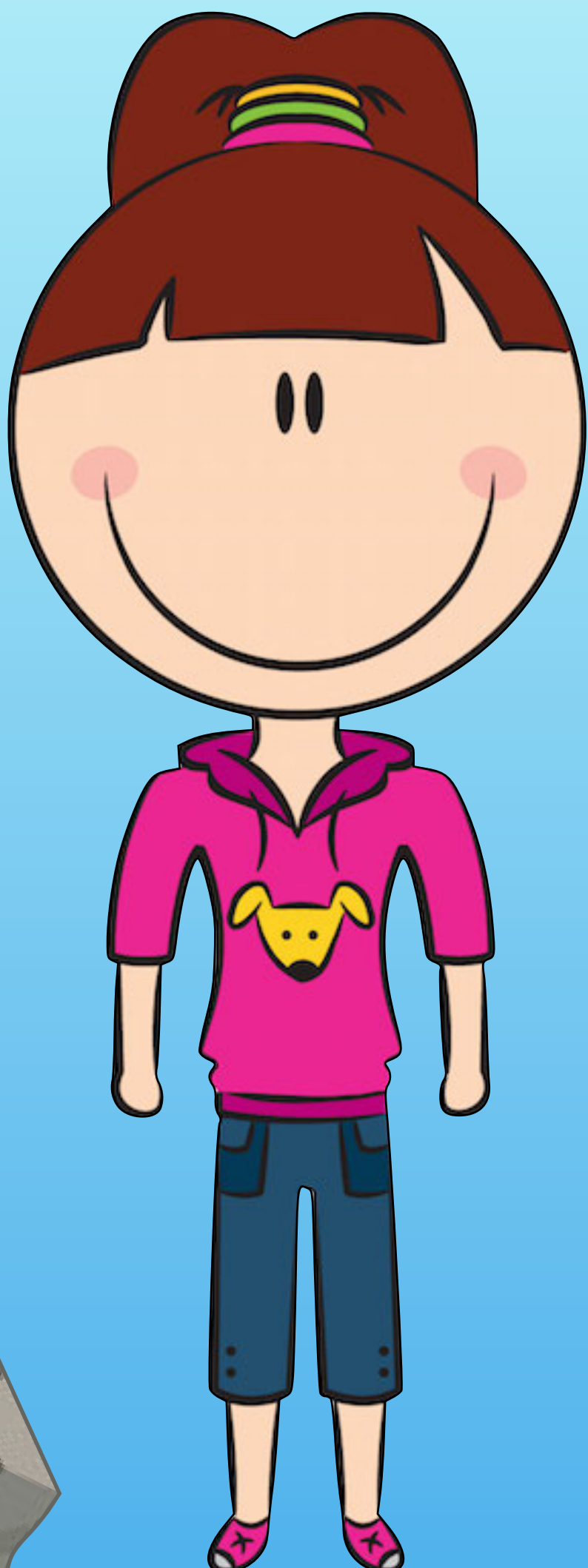
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Rivers collect the run-off water from the precipitation (rain) and transport it across the land back to the ocean or sea. This keeps the water cycle going.

Wow! Rivers are quite important.





Have you seen
rivers flooding?

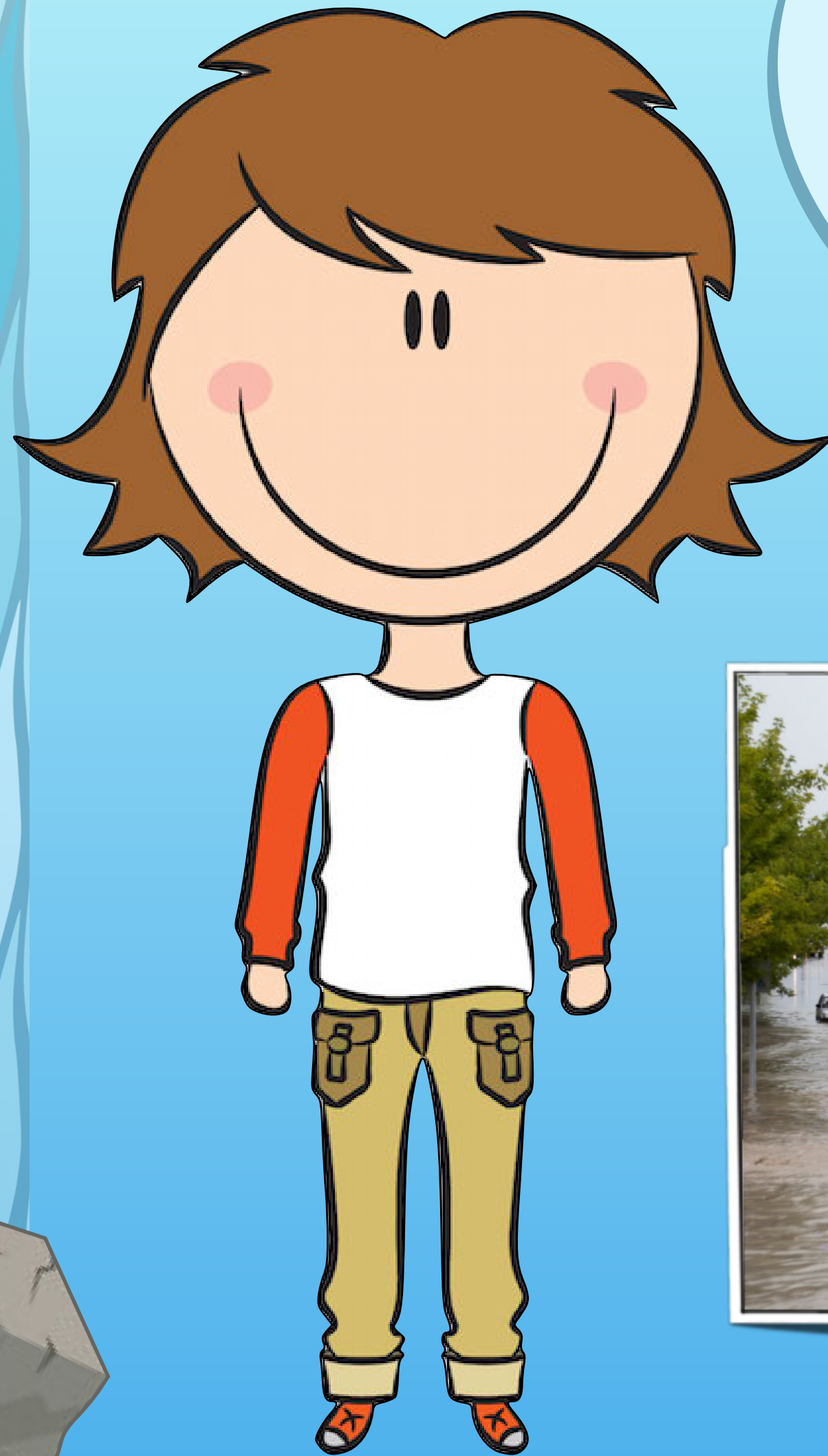
Did you know flooding
is linked to the water cycle.
Do you know how?

If too much rain (precipitation) falls in one area, the river in this area can quickly fill up, especially if the groundwater level is quite high too.

This causes the river to break its banks and the water then floods onto the surrounding land.



What effect can
floods have on the land and
surrounding
communities?



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What
would happen to
the Earth if there was
no:

1. Precipitation?
2. Evaporation?
3. Condensation?

