

The water cycle

Stage 1

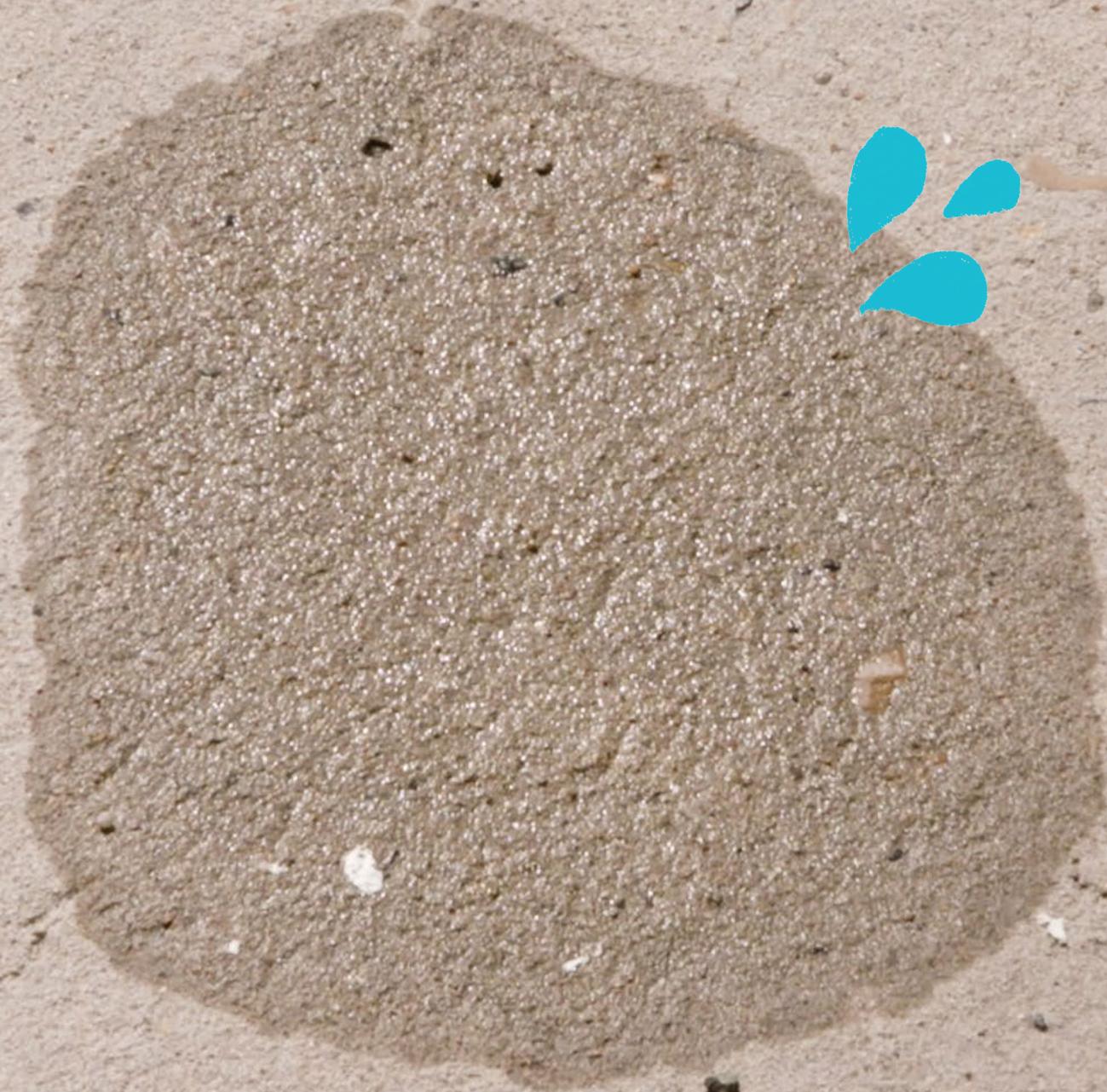
Exploring how all water moves endlessly through the water cycle

Lesson 1

The natural water cycle

Activity 1: Wondering about water

Does water disappear?



How are clouds made?



Is rain new water?



How does water move from the earth to the clouds and back?



Lesson 1

The natural water cycle

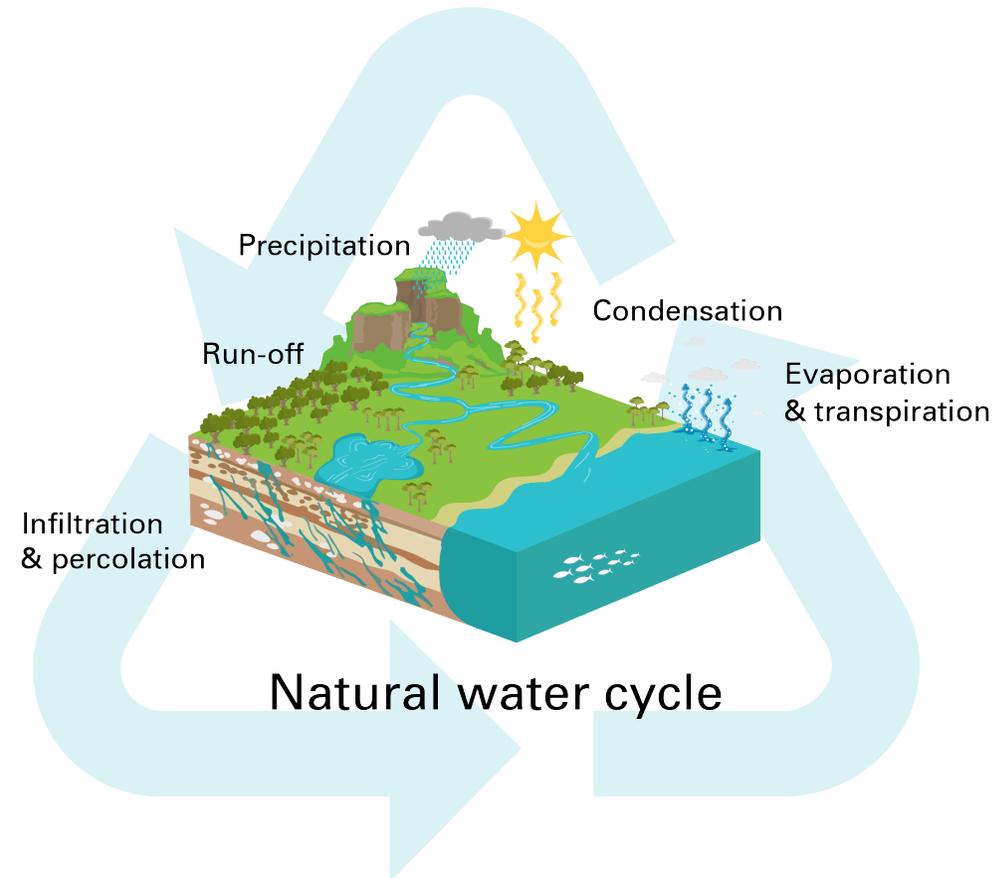
Activity 2: What is the natural water cycle?

Did you know?

All the water on the Earth is all that we have.

It moves from the earth to the sky and back again every day, all the time.

It goes round and round in an endless cycle called the natural water cycle.



Can you guess how old water is?



It's billions of years old!

There is never new water. In fact,

saber tooth tigers
drank this water



sharks, whales and goldfish
swam in this water

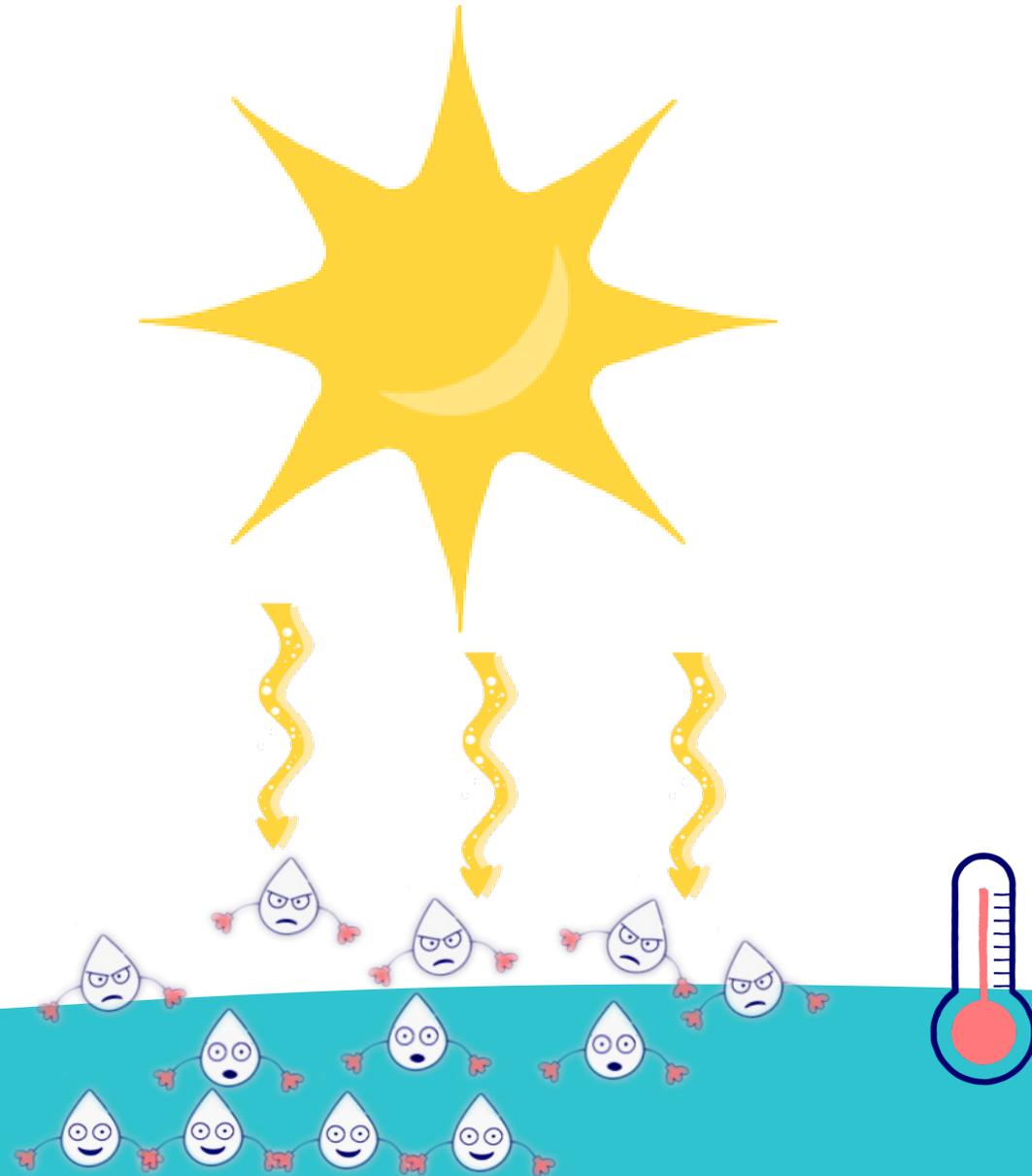


dinosaurs
drank this water



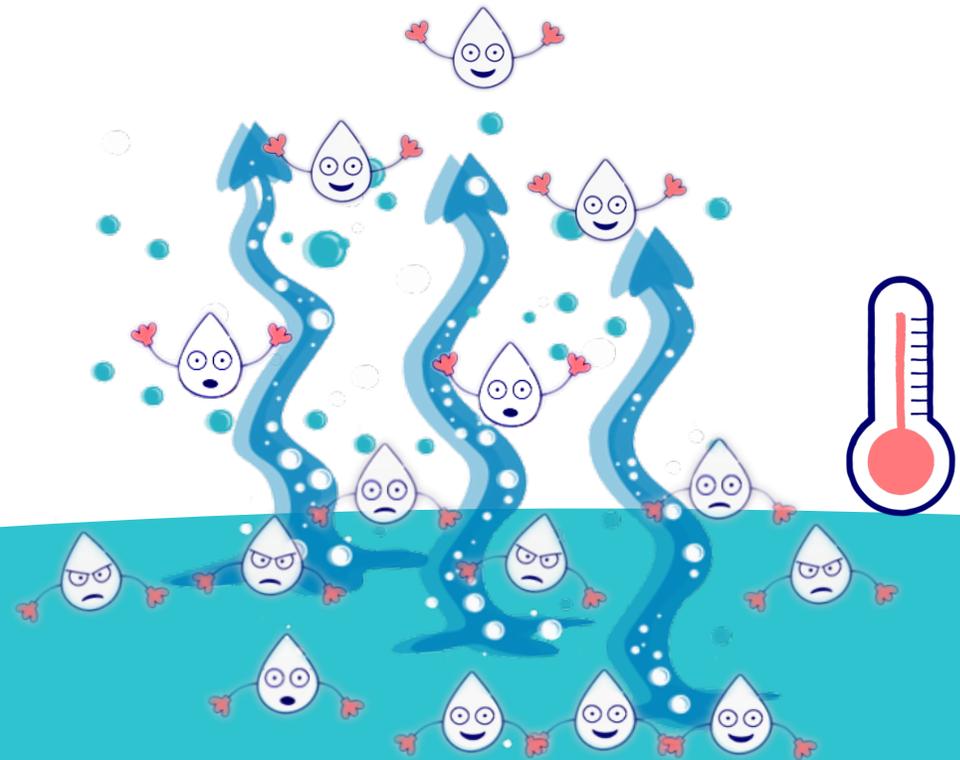
So how does it work?

The natural water cycle starts with the sun. When the sun shines it heats the water on Earth.



Evaporation

is when the sun heats the water and the water droplets are too hot to stick together. They turn into gas called water vapour.



Transpiration

is when the sun warms people, plants and animals.

When we sweat or breathe we release small amounts of water vapour into the air, too.



Did you know?

A gum tree can transpire (release) up to 200L of water everyday!

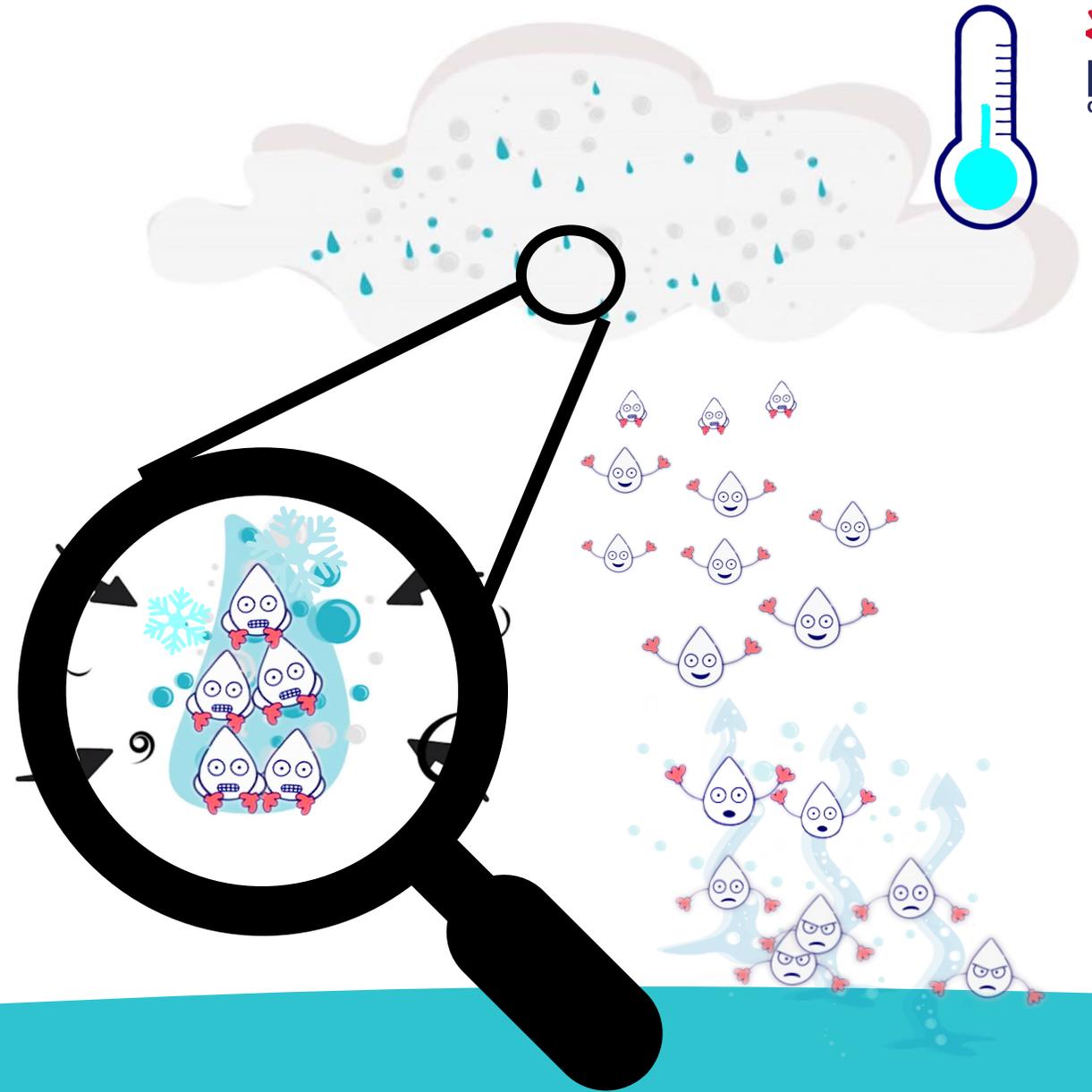
That's 100 milk bottles of water.

Trees can help make clouds - think about rainforests.



Condensation

is when water vapour rises in the air and cools to form tiny water droplets that stick together. This is how a cloud is made.



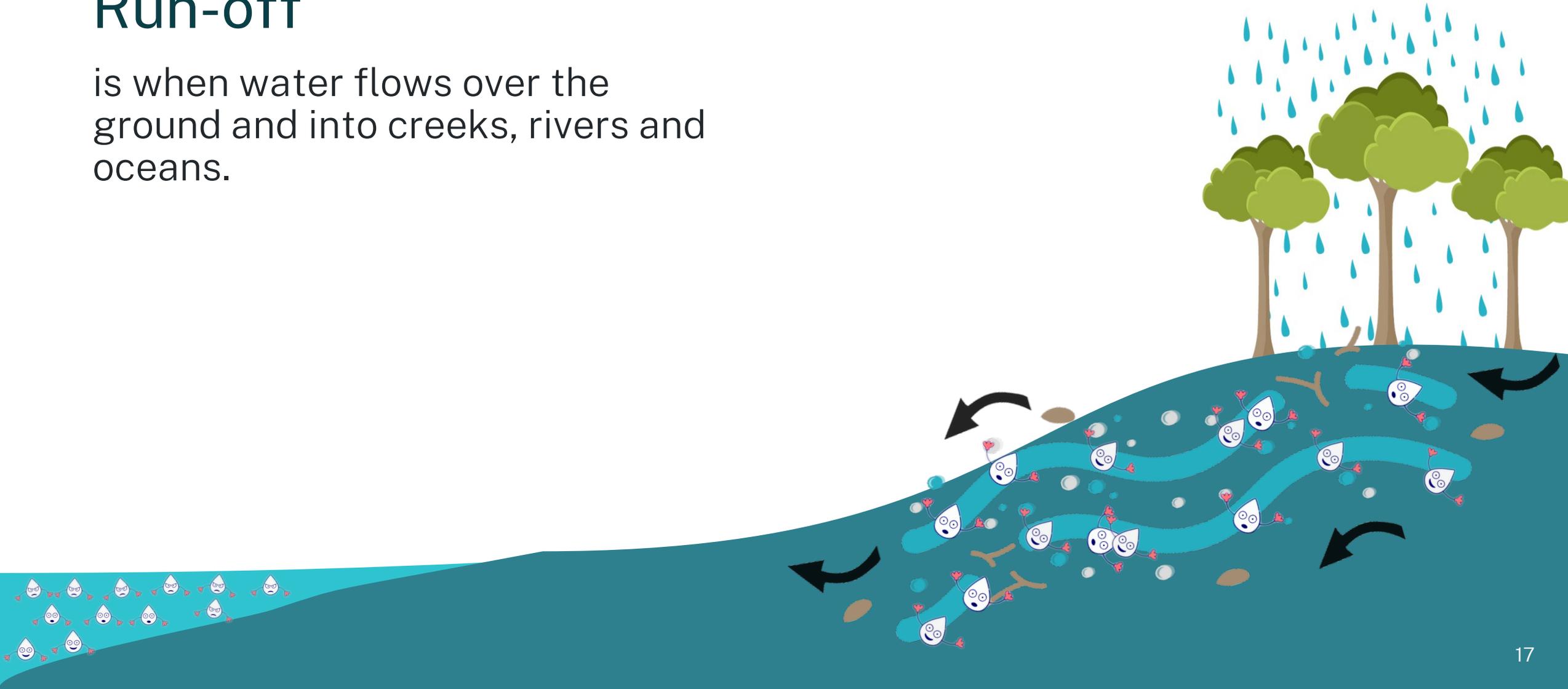
Precipitation

is when the clouds are so heavy with water droplets they fall as rain, snow or hail.



Run-off

is when water flows over the ground and into creeks, rivers and oceans.



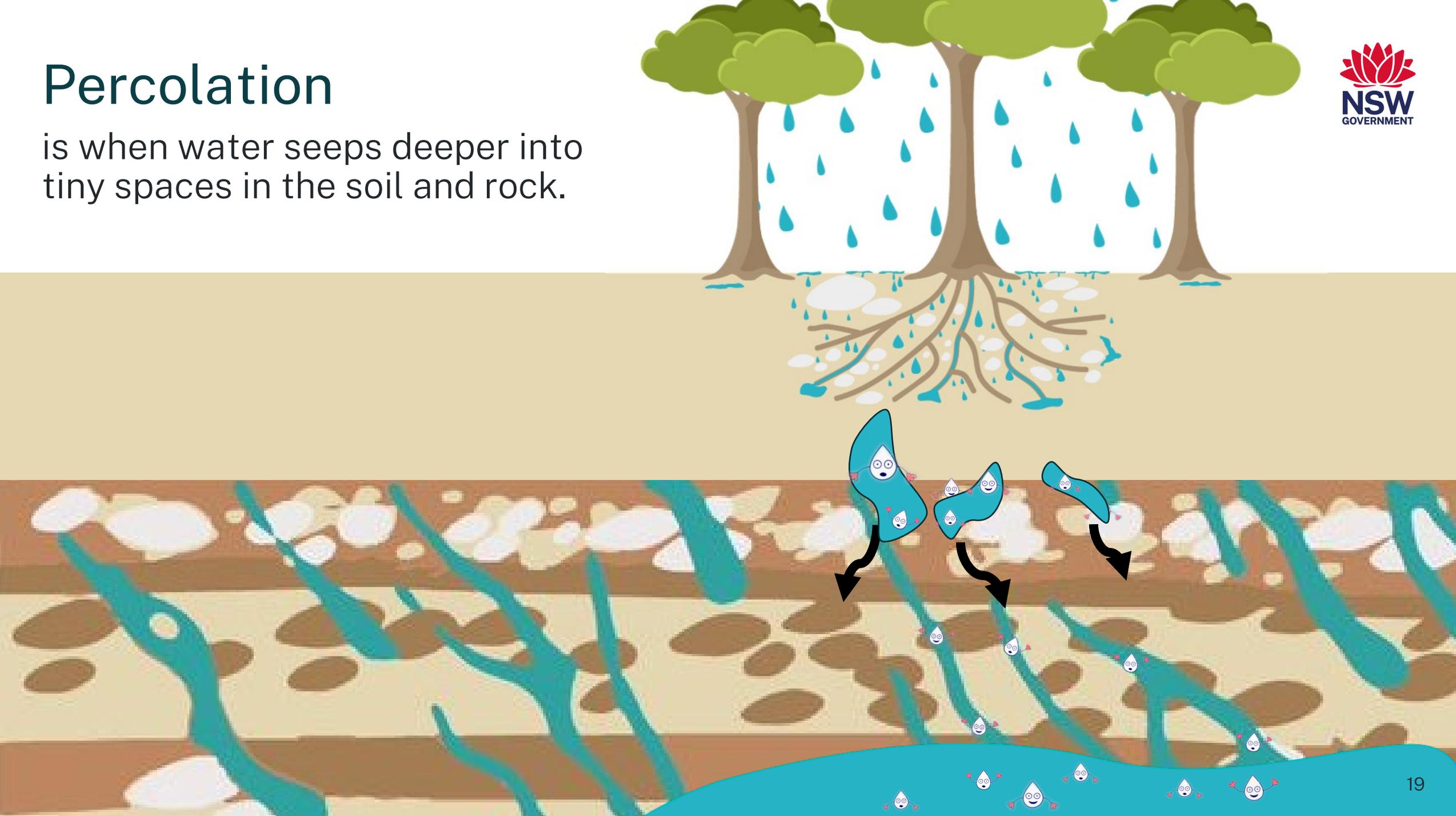
Infiltration

is when water falls on the ground and soaks into soil.



Percolation

is when water seeps deeper into tiny spaces in the soil and rock.



Water cycle song

by Monica Sheba

To the tune of 'She'll be comin' round the mountain'

Water goes round in a circle, yes it does

(use finger to draw a large circle in the air)

Water goes round in a circle, yes it does

(repeat motion)

It goes up as evaporation

(raise arms with palms up)

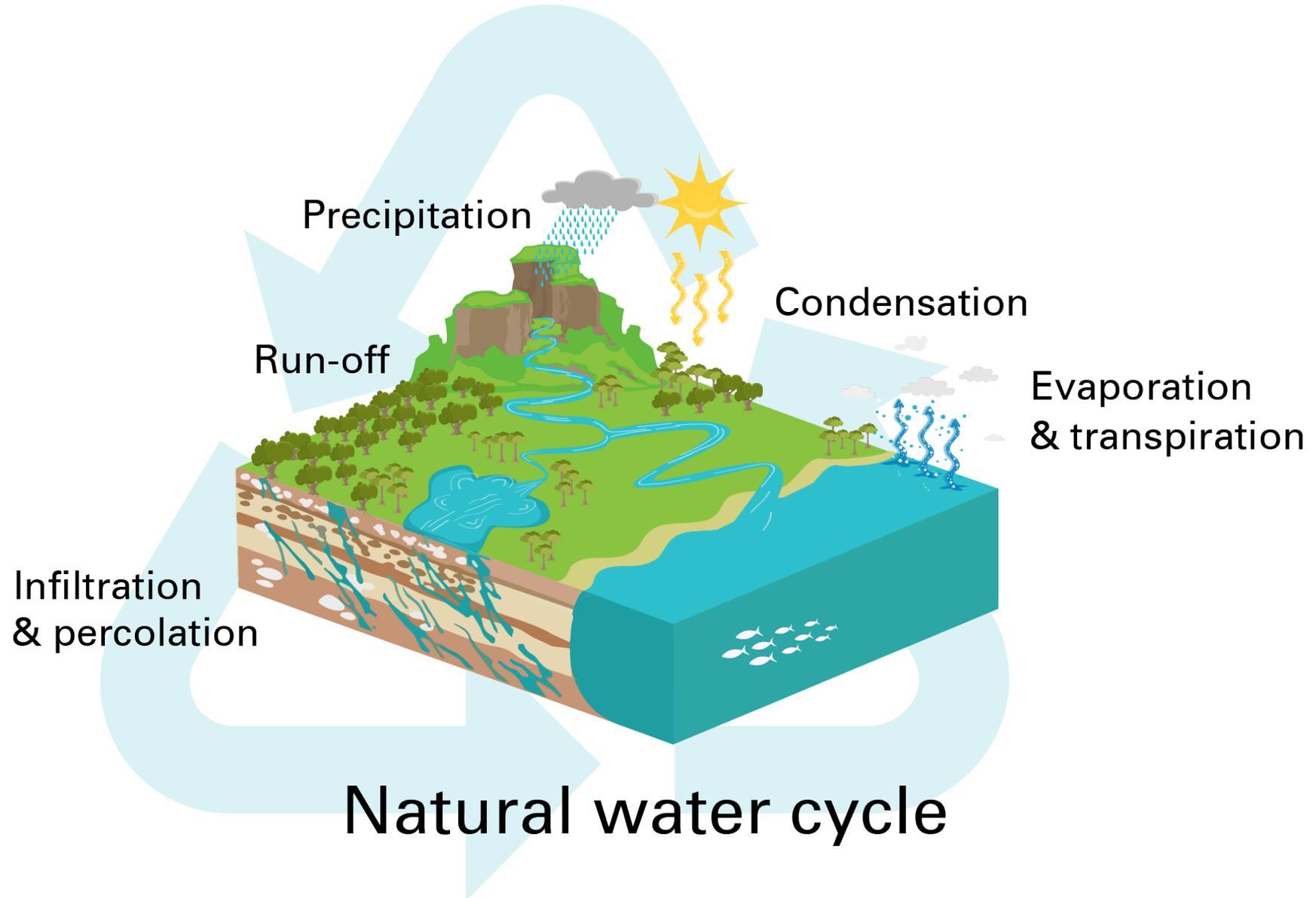
And makes clouds and condensation

(bring hands above head to form a cloud shape)

Then falls down as precipitation, yes it does

(slowly lower hands, wiggling fingers)





Lesson 2

Water cycle experiments

Activity 1: Demonstration – can you make a cloud?

What are clouds? What are they made of?

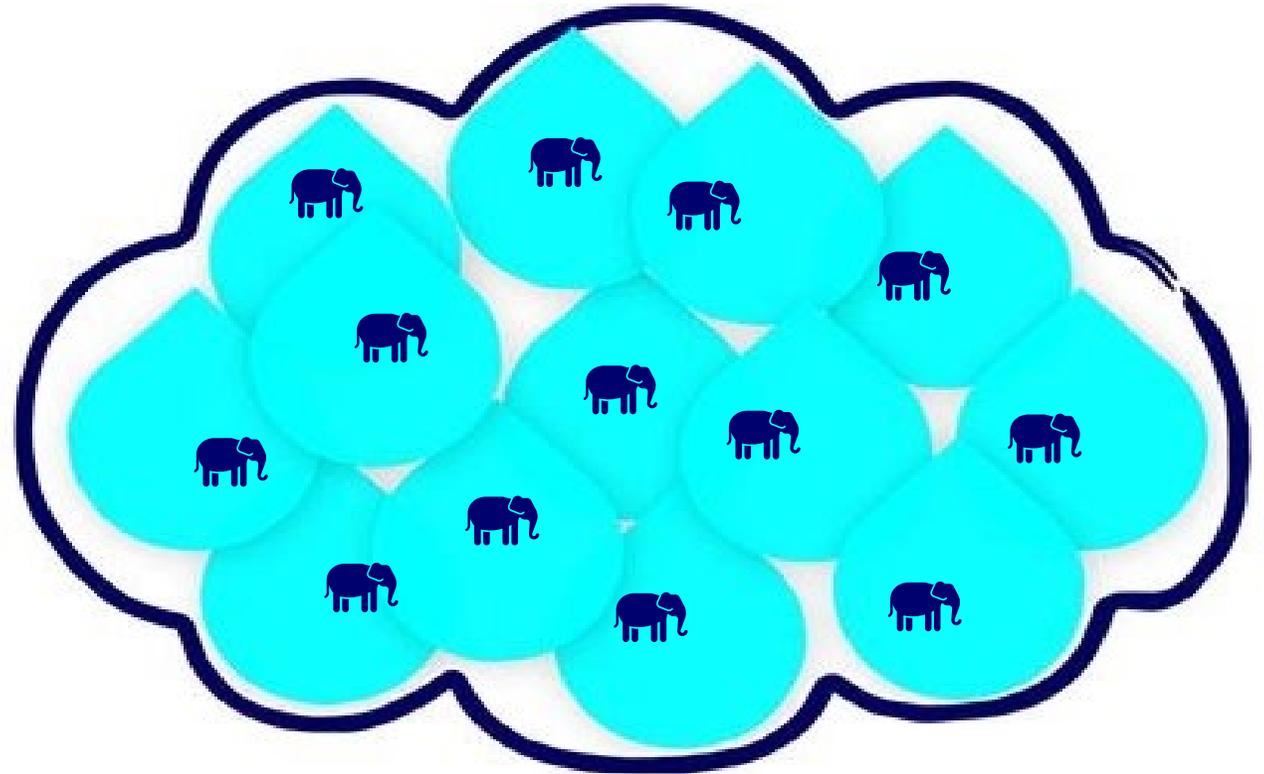


Did you know?

Clouds are made up of squillions of tiny water droplets.

The average cloud weighs about 500 tonnes (500,000 kg).

That's about 100 elephants!



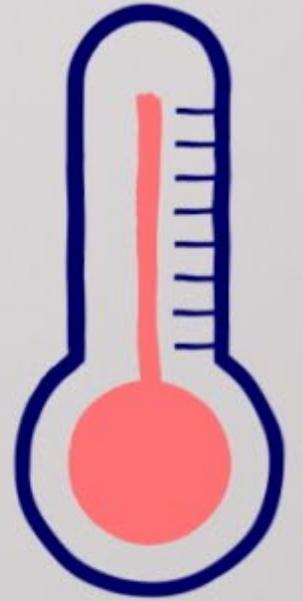
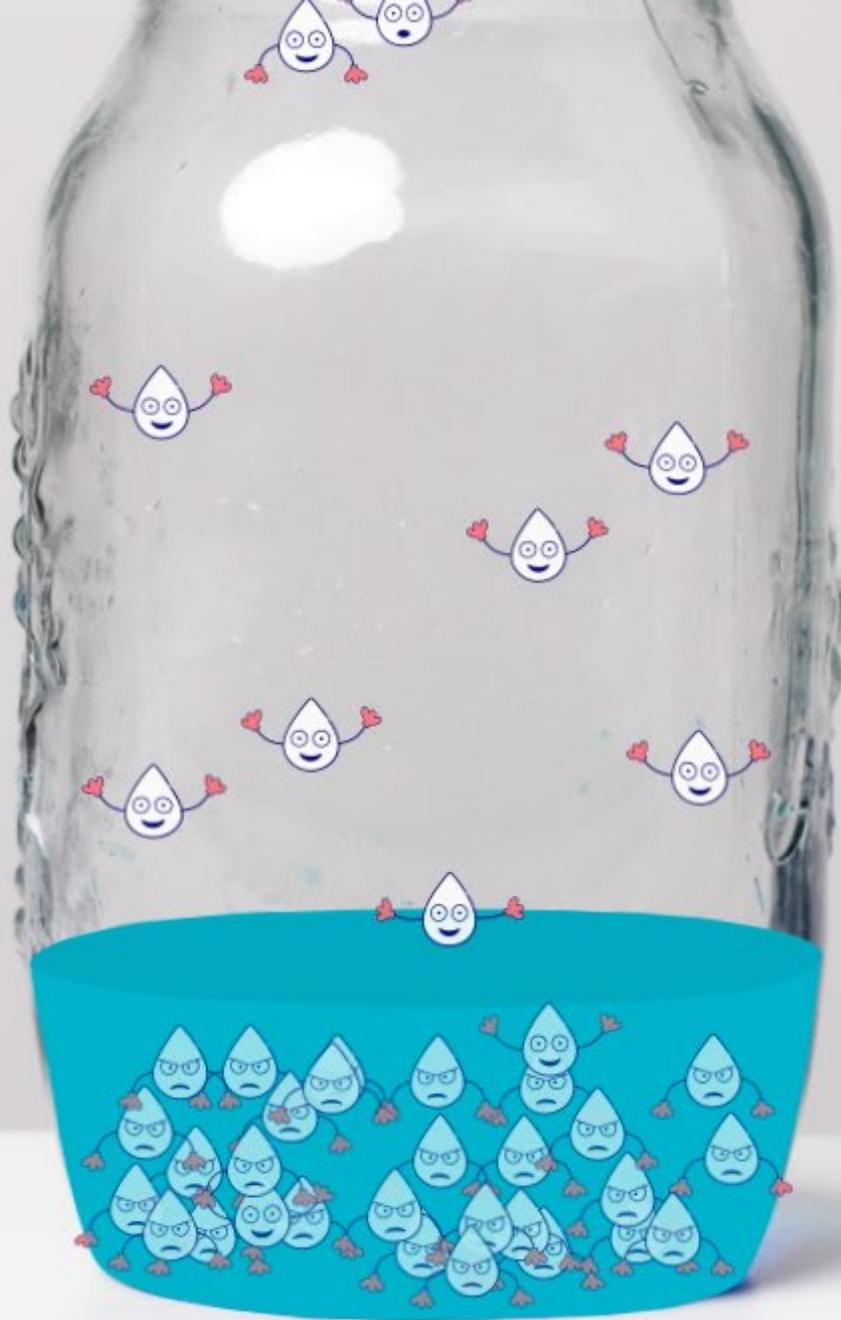
Let's make a cloud!

Watch a part of the water cycle in action



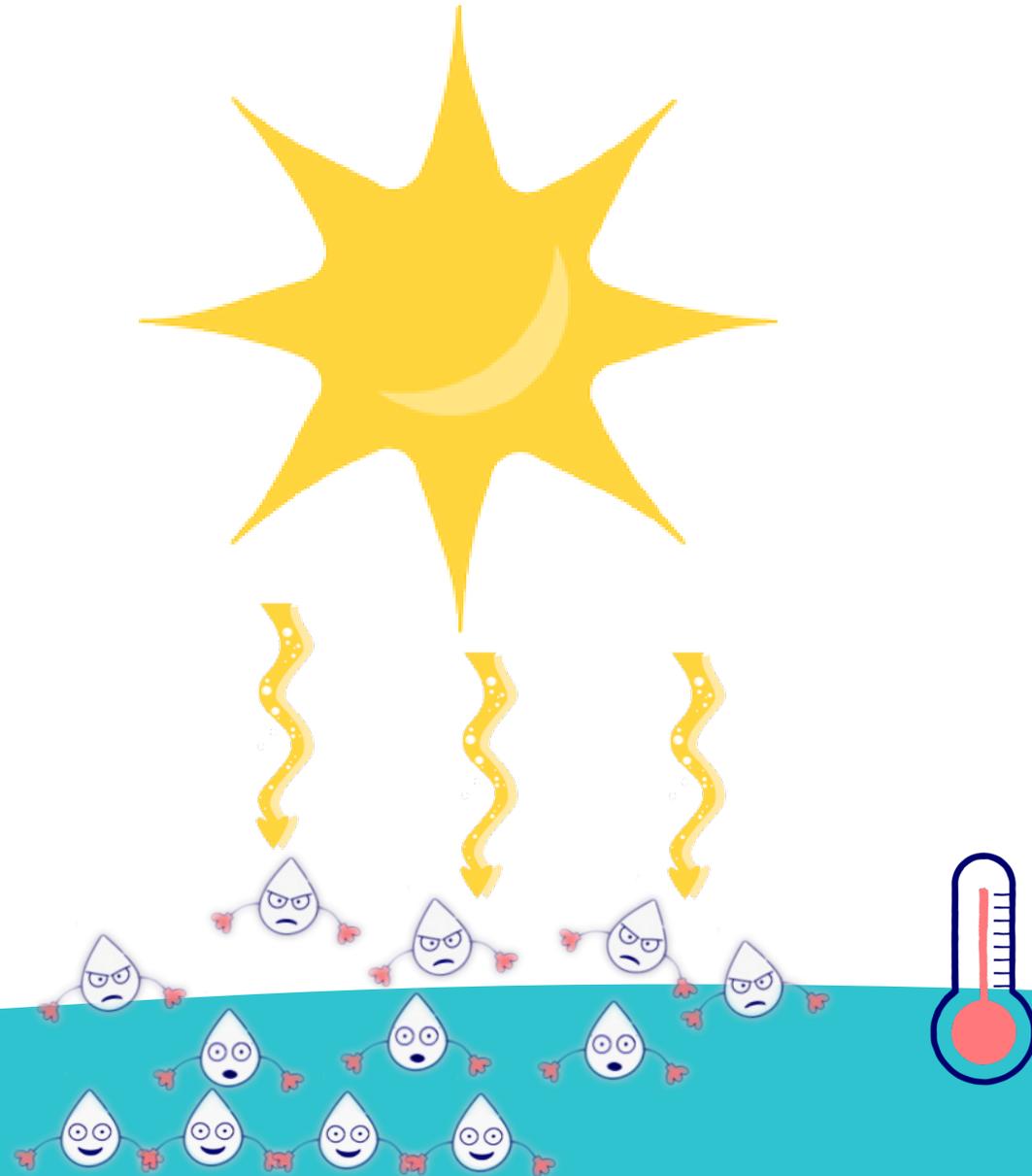
What happened to the warmed water?

Water droplets are too hot to stick together and turn into gas called water vapour.

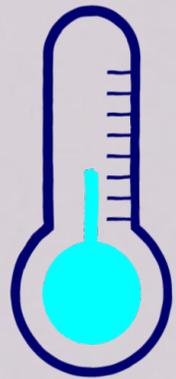


This happens in nature too

Water droplets are too hot to stick together and turn into gas called water vapour.



What happened near the ice cubes?



The ice cooled the water vapour.



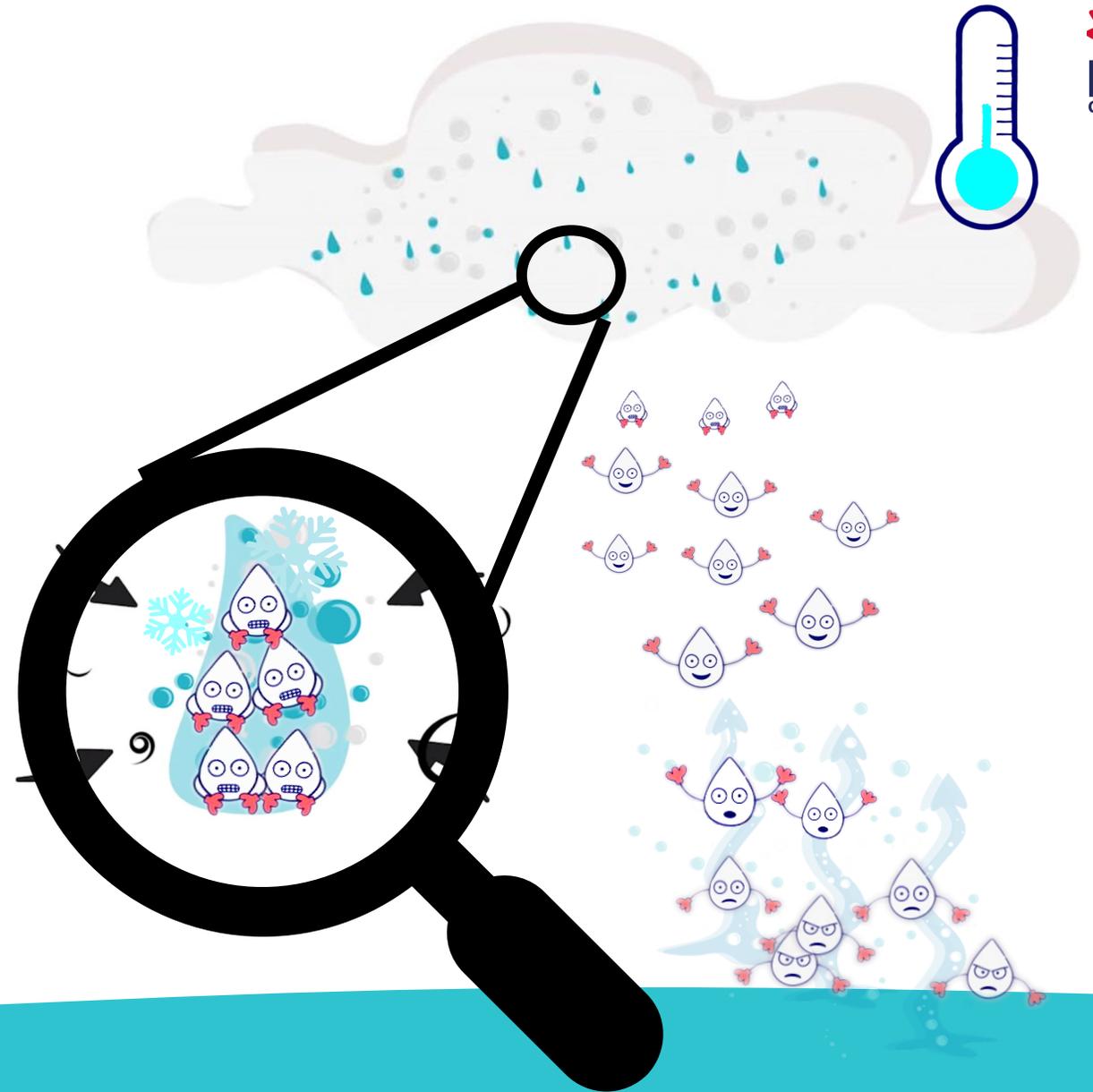
Condensation

The water vapour turned into tiny water droplets that stick together.



This happens in nature too

When water vapour rises in the air, it cools and forms tiny water droplets that stick together. This is how a cloud is made.



Lesson 2

Water cycle

experiments

Activity 1: Practical investigation – does water disappear?

Let's see if water evaporates



Measure and compare

Plan an investigation

Experiment title: Water evaporation experiment

1

questions

What am I going to **investigate** (try to find out)?

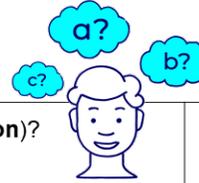


How fast/much will the water evaporate (float away)?

2

hypothesis

What do I think will happen (**prediction**)? Why?



3

materials

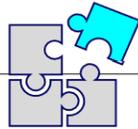
What **materials** (things) will I use?



4

method

How will I use my materials? Draw or take photos to help explain.



5

hazards

What are some **hazards**? (things that could cause harm)



6

risks

What can I do to reduce **risks**? (chance that hazards cause harm)



7

observation

What did I...



see



smell



hear



feel

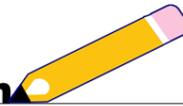


taste?

8

conclusion

What did I find out? Did my prediction come true? Why or why not?



9

questions

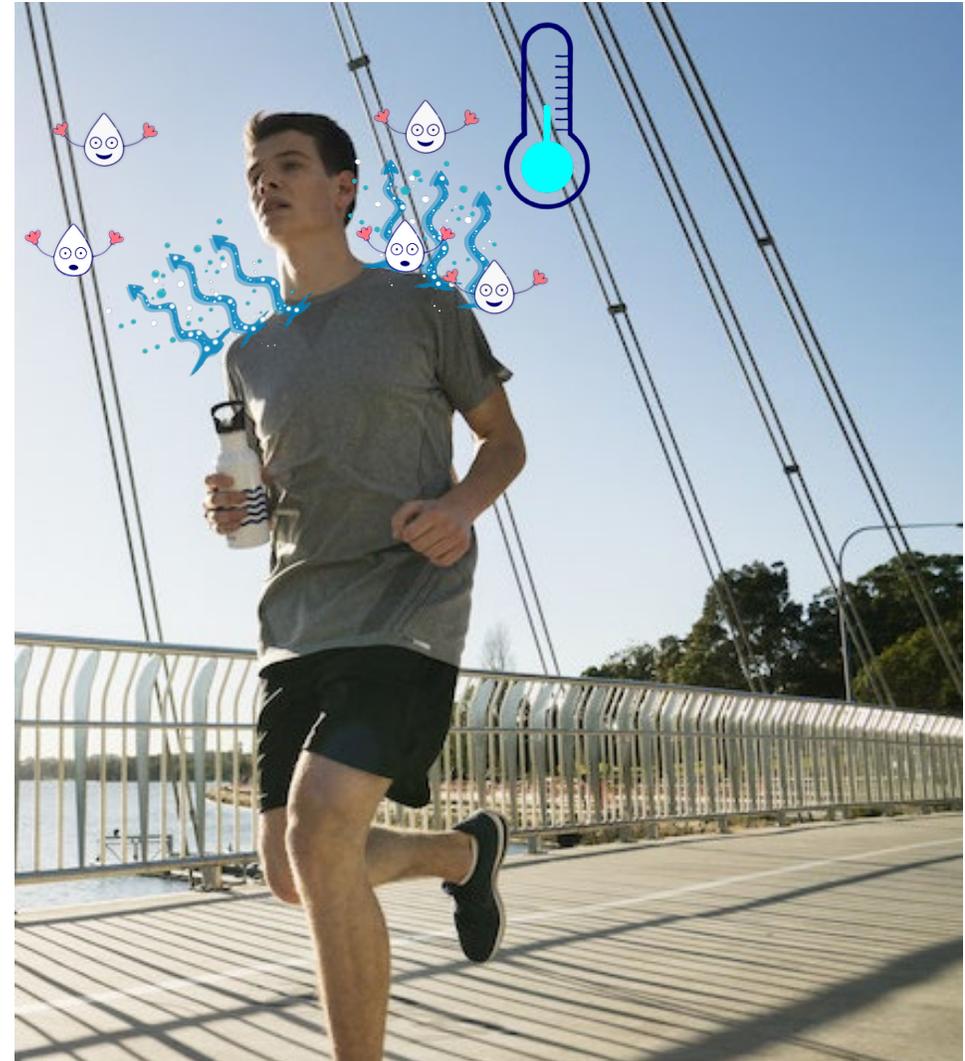
What questions do I have now? What do I want to know more about?



Did you know?

Evaporation and transpiration helps us keep cool!

When liquid water like sweat turns to water vapor (gas) it cools the air around us.



Lesson 3

The urban water cycle

Activity 1: What is the urban water cycle?

Natural environments

are the living and non-living things found naturally in a space or place.



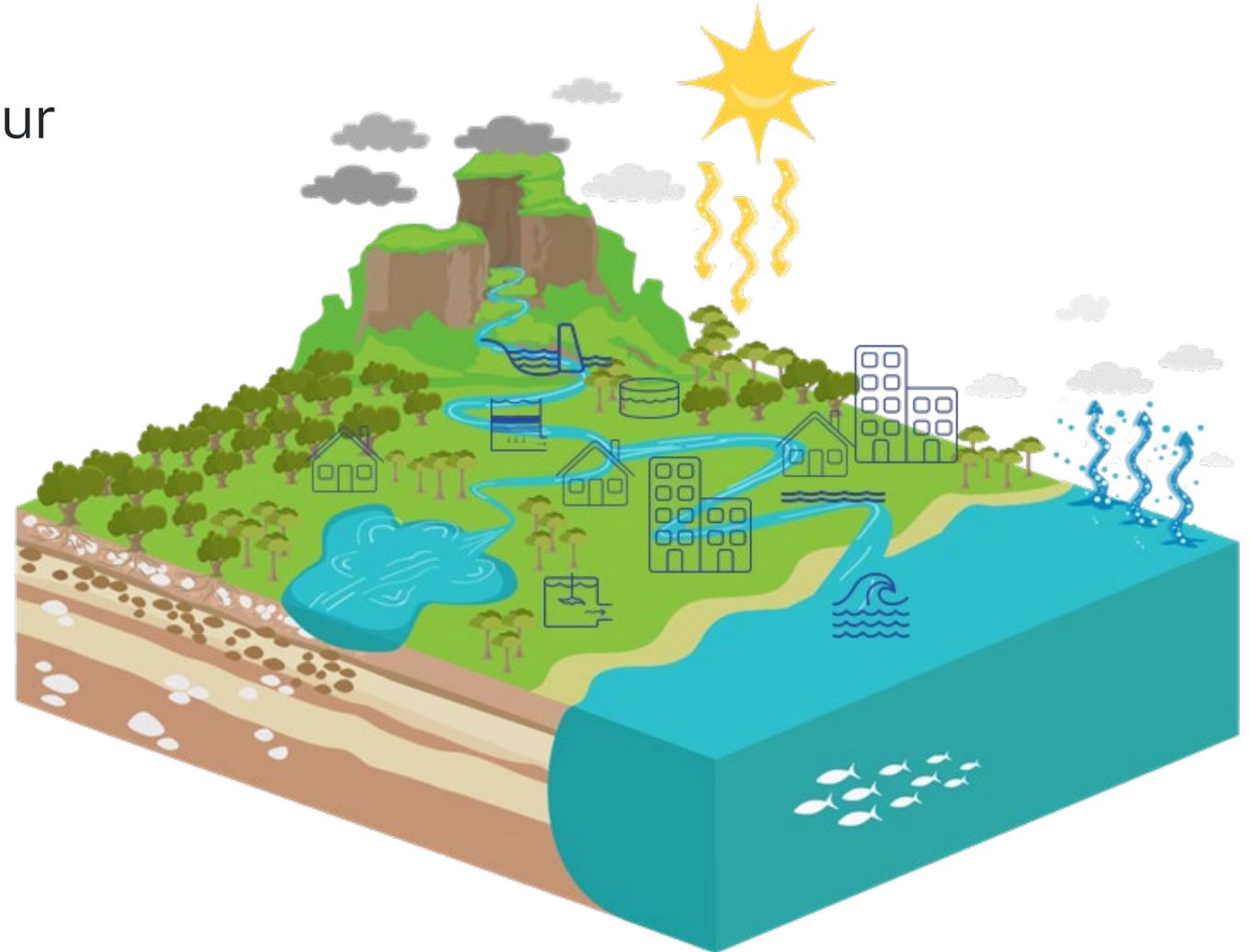
Built environments

are places and spaces created or changed by people.



What is the urban water cycle?

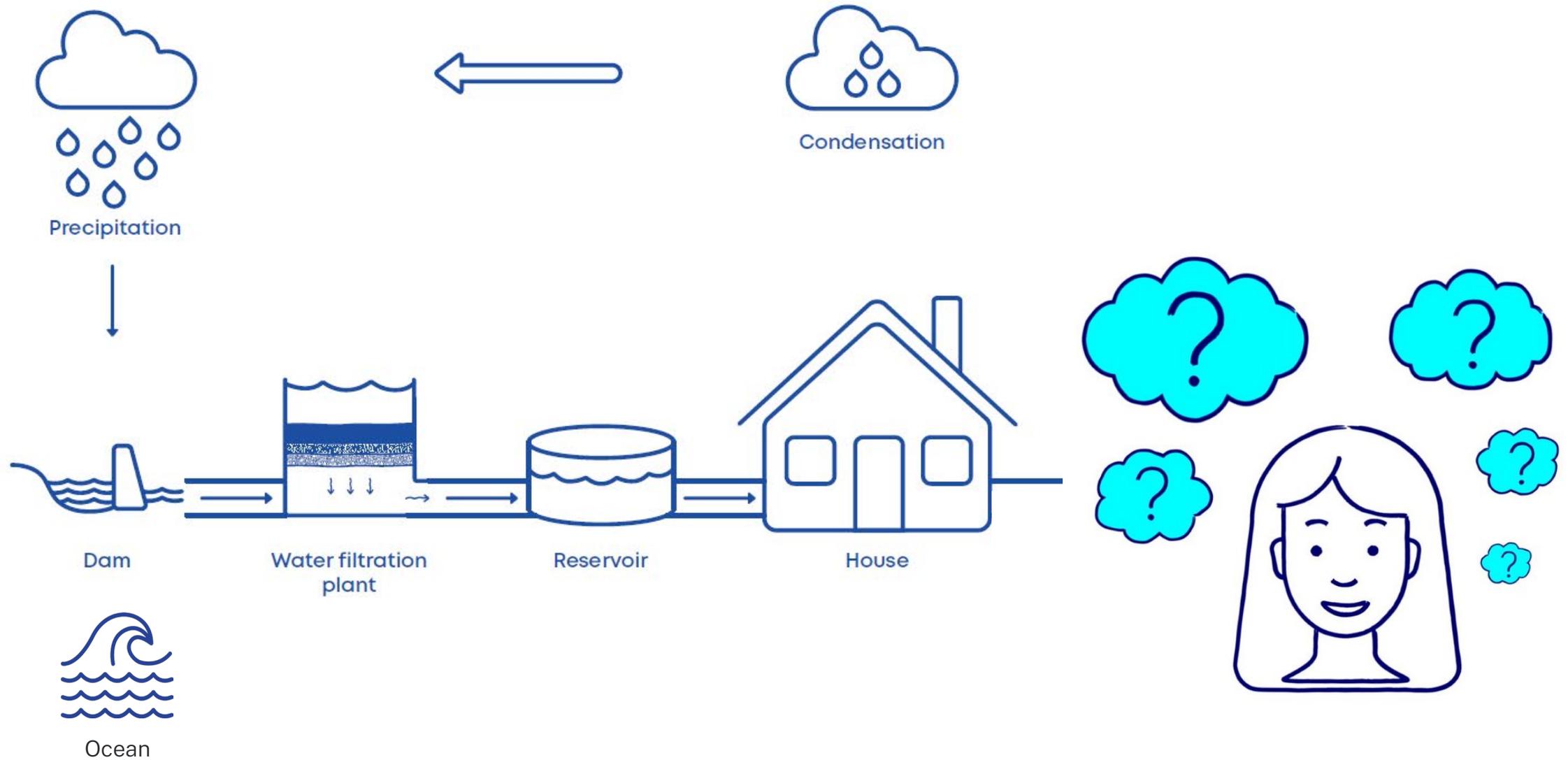
It's when we change and manage the natural water cycle to meet our water needs.



We change the water cycle so we can...



Where does our water come from?



Dams

We build dams to store rainwater



Oceans

We can also get water from oceans by removing the salt



Other sources of water

We can also get water from rivers, recycled water, rainwater and groundwater.

 rivers



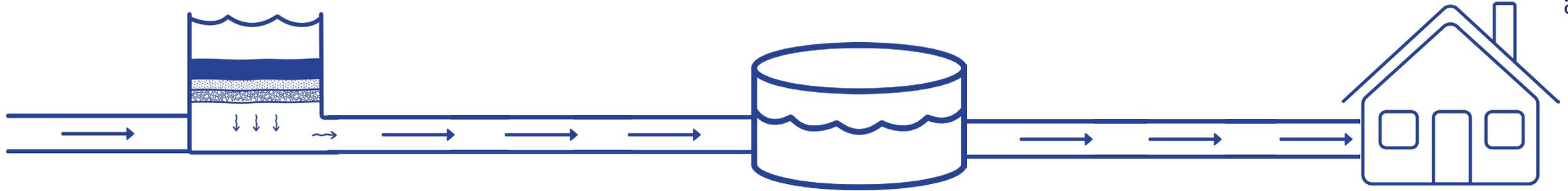
 recycled water



 other sources



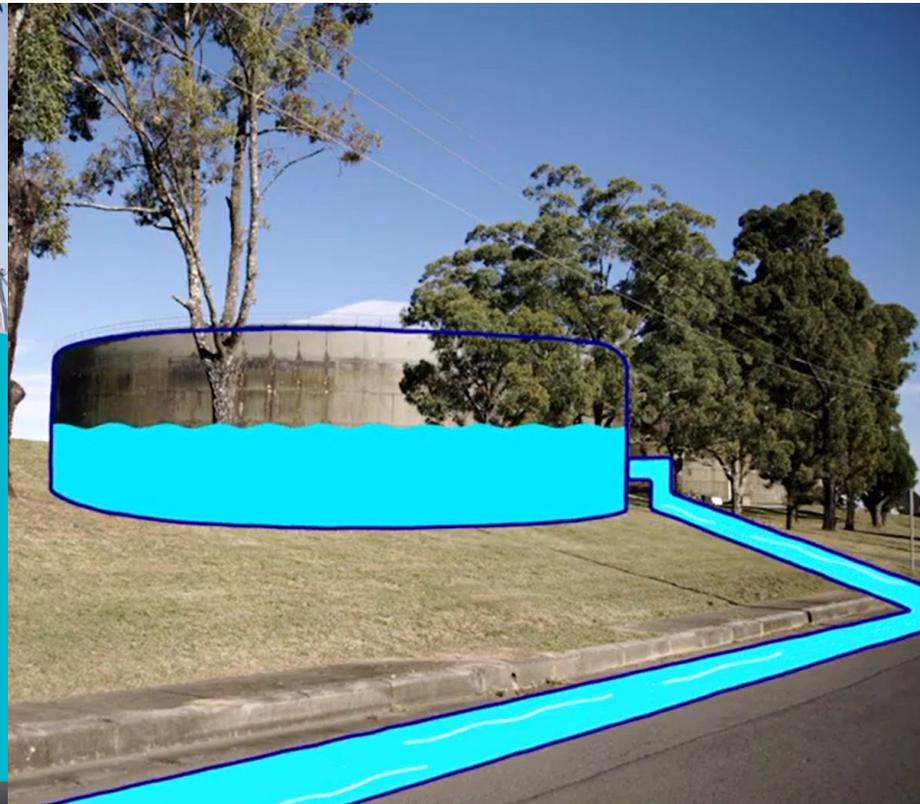
Is your water cleaned? How does it get to you?



Water filtration plant
cleans and filters drinking water

Reservoir stores our clean drinking
water

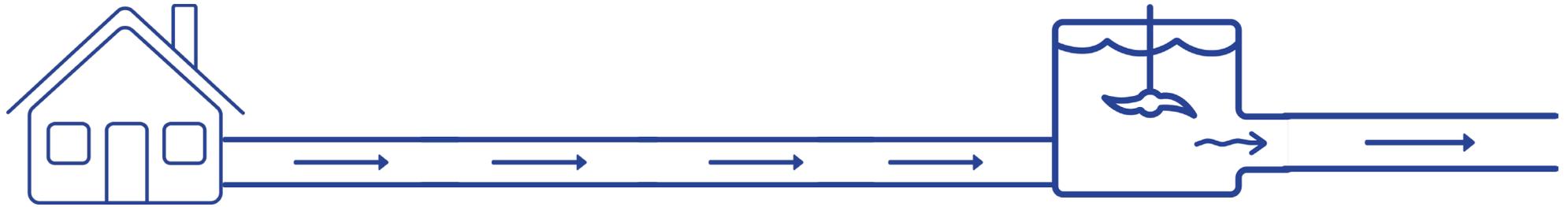
Our homes



What happens after we use our water? Where does it go?



Used water gets cleaned

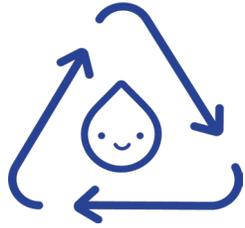


Used water goes down drains

and gets cleaned at a water recycling plant



and can be used again!



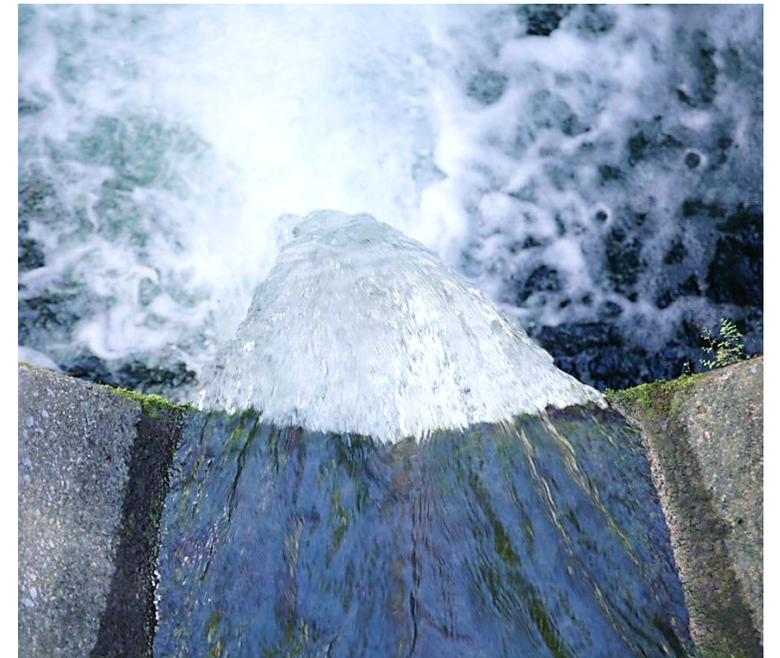
recycled water



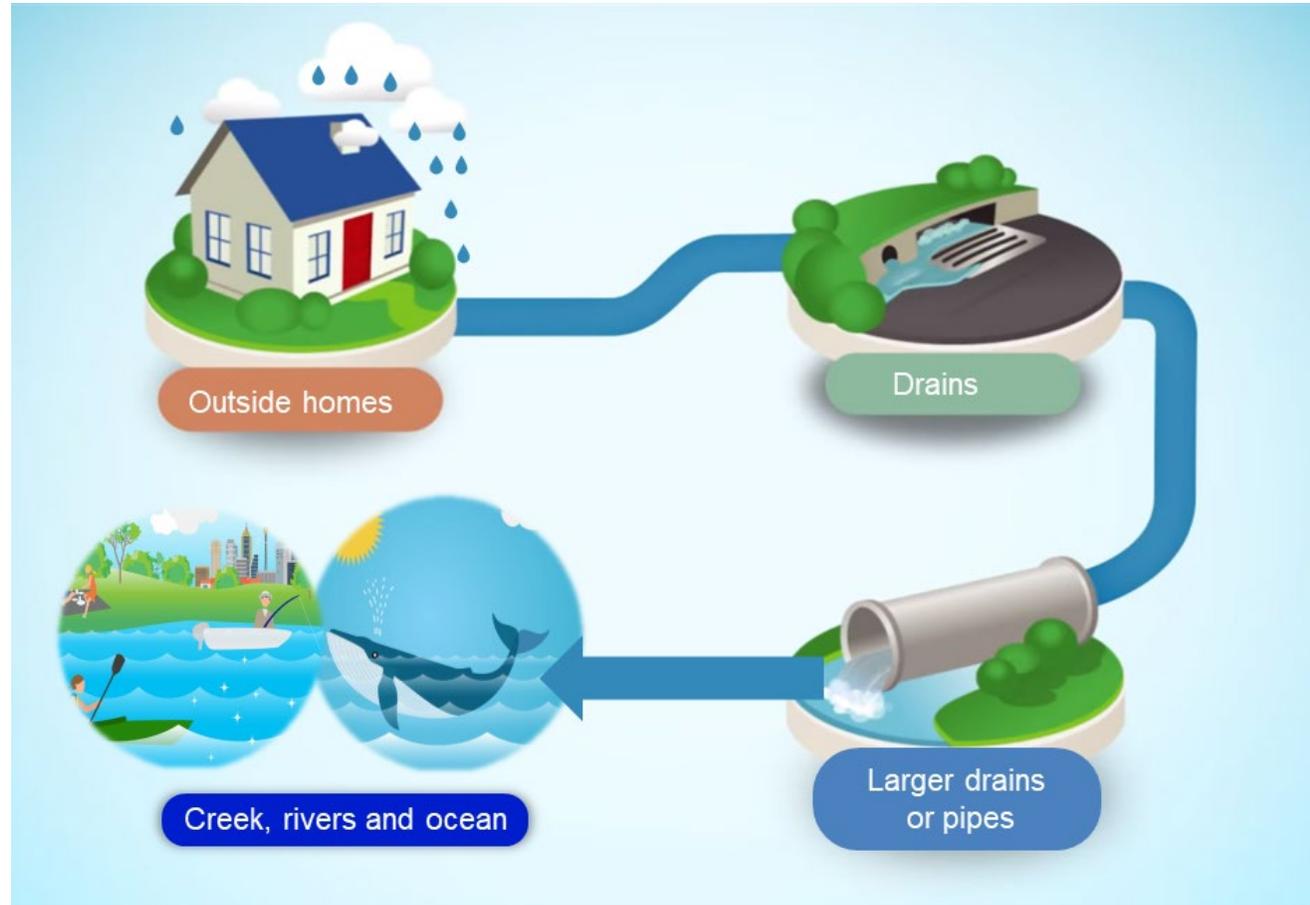
rivers



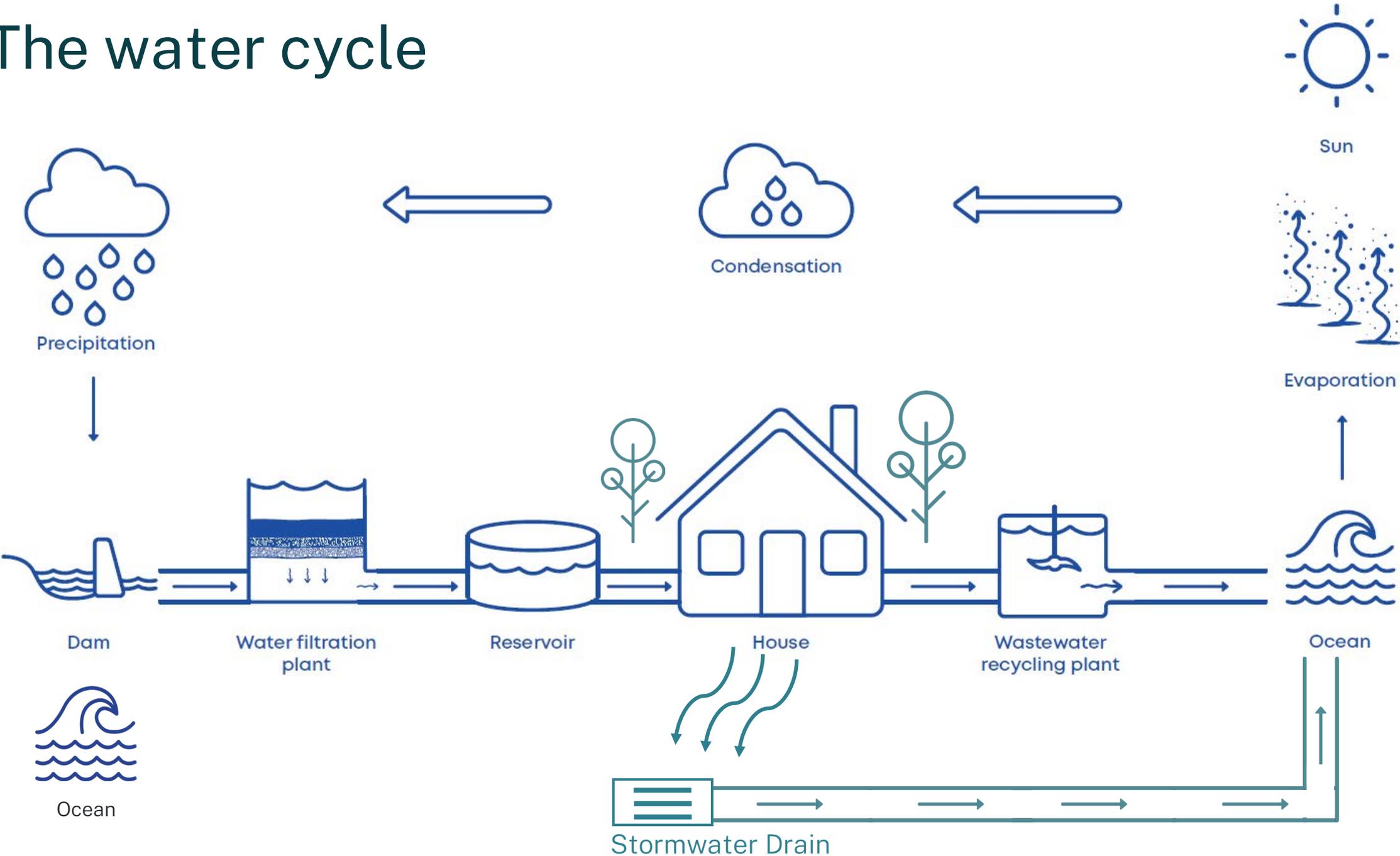
ocean



Where does water (stormwater) outside our homes go?



The water cycle

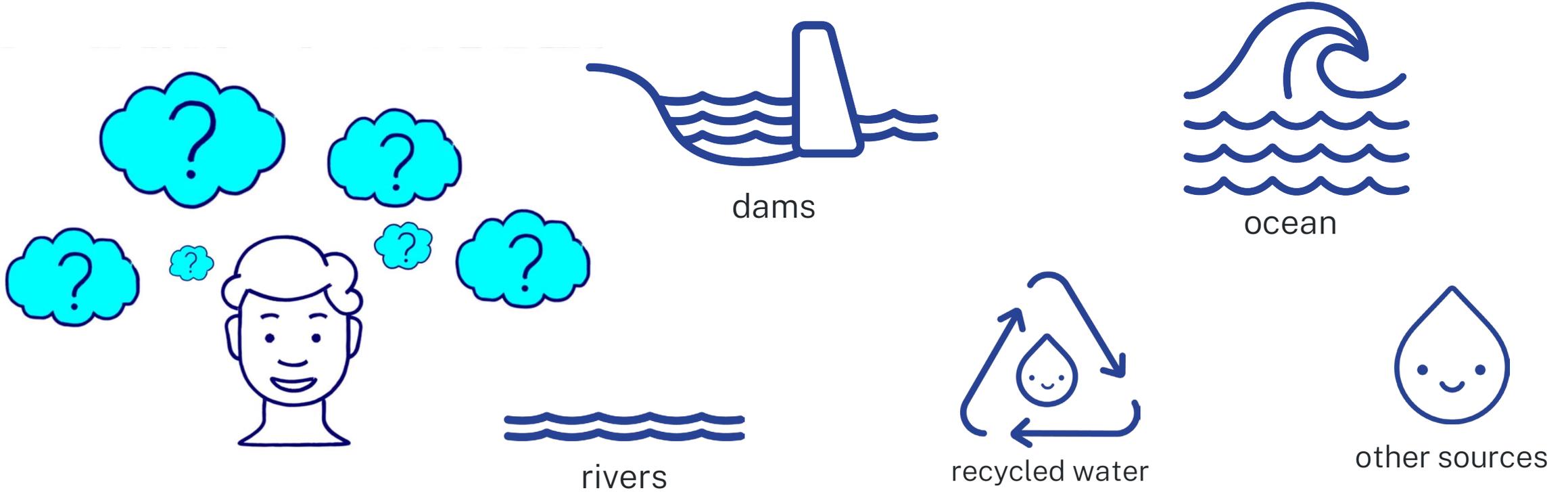


Lesson 3

The urban water cycle

Activity 1: What's my urban water cycle?

Where does your water come from?



Build your own water cycle!



What I learned about water

Write or draw
in a droplet.

