



The **W a t e r** **C y c l e**

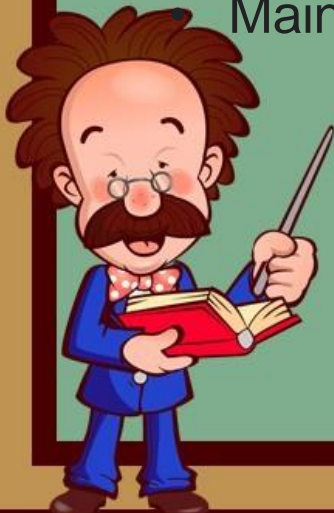
SCIENCE

Class IV

Academic Session 2021-2022

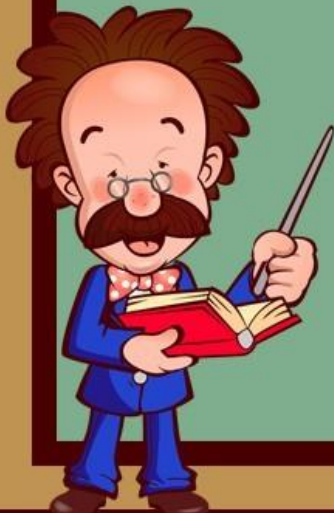
What is Weather ?

- **Weather** is the state of the atmosphere, describing for example the degree to which it is **hot or cold, wet or dry, calm or stormy, clear or cloudy**.
- It should not be confused with **Season**, which **lasts for longer** duration. Weather may **change very quickly** from cloudy to sunny or sunny to rainy, whereas seasons generally change over period of few months.
- Main reason for change in weather is **heat of the sun**.

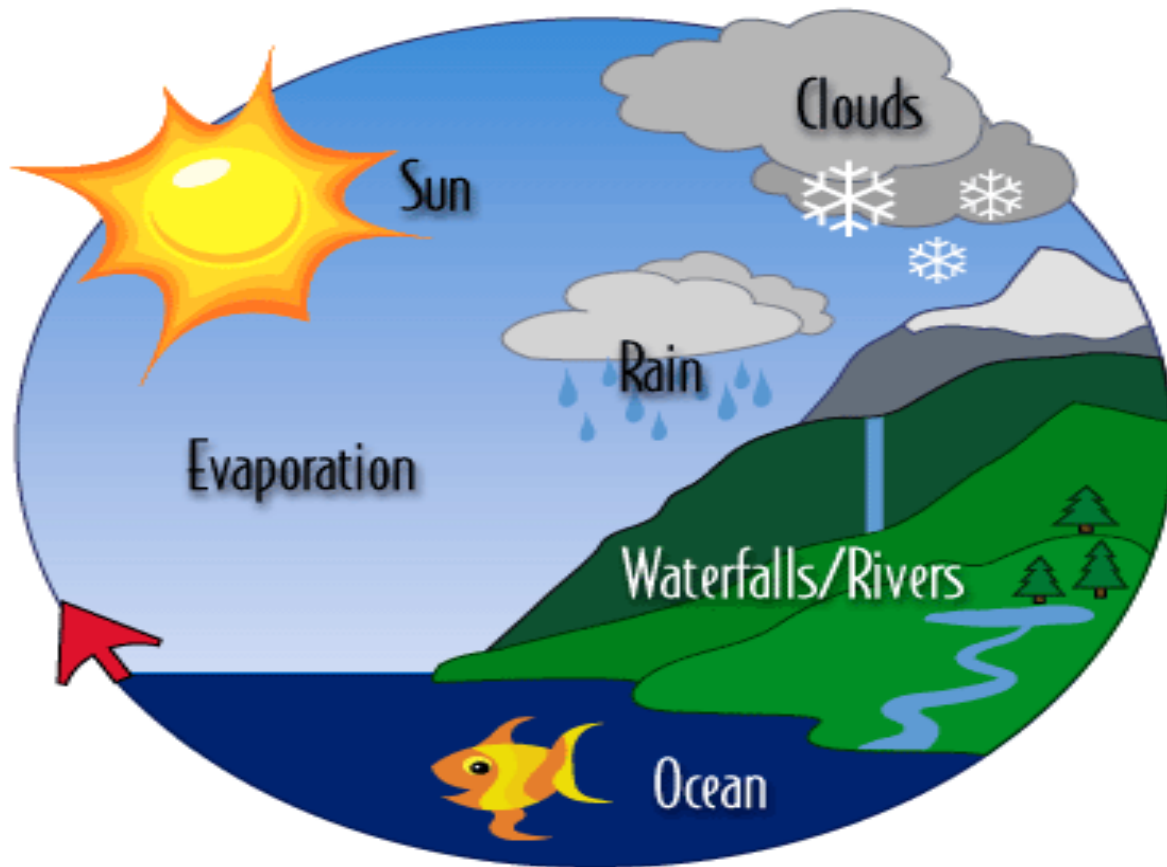


What is the water cycle?

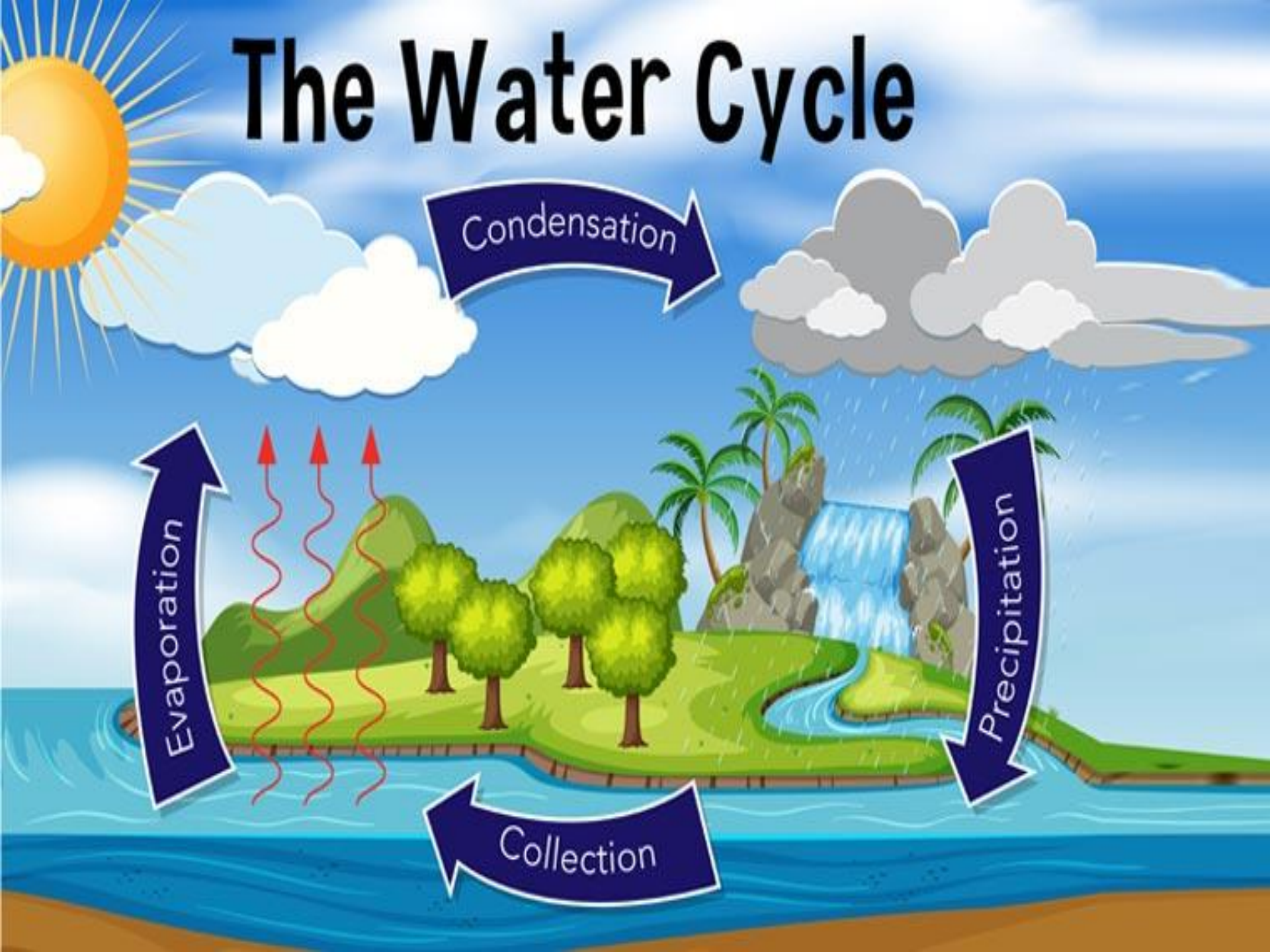
Did you know that there is no new water on Earth? It all gets recycled and reused in a process that we call the **water cycle**. The water cycle is a way that water moves all around the Earth. It never stops and doesn't really have a beginning or an end. It's like a big circle.



The water cycle



The Water Cycle



Water cycle stages

Water cycle can be divided into four main stages. The four stages of this cycle consist of

1. Evaporation.
2. Condensation.
3. Precipitation.
4. Collection/ Storage.

Let us understand each stage one by one.

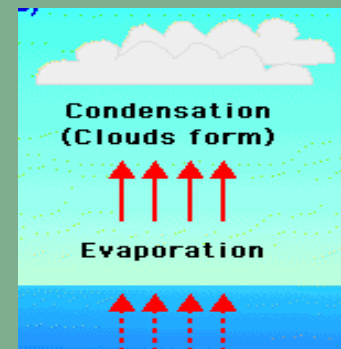


1. Evaporation

- Evaporation is when the sun heats up water in seas, rivers, lakes, ocean and glaciers and turns it **into water vapour or steam** and rises up into the air/atmosphere.
- Water is also evaporated **through plants** and soil through a process called **transpiration**. The water vapour cannot be seen with naked eyes.

Did you know?

Ocean contributes about 80% of total water vapour in air.



2. Condensation

- As the water vapour rises higher into the air /atmosphere, it cools and condenses.
- Condensation means that water changes **from a gas (water vapour or steam) to liquid (water droplets)** forming the clouds in the sky. Clouds contain million of tiny droplets of water.



*My friends
and I form
clouds in the
sky.*



3. Precipitation



The water keeps **condensing to form clouds**, but when there is too much accumulation or collection of water in these clouds, the clouds **become heavy**. This means the air can no longer hold this much amount of water, and the water starts to fall back to the earth in the form of rain. If the **atmosphere is cold** enough, the form of precipitation changes from rain to snow.



4. Collection/ Water storage

- In the last stage, rain or melted snow flows back into **water bodies** like seas, rivers, lakes, and glacier. Rainwater is also **soaked up by the soil**, through a process called **infiltration**.
- Some of the water also runs off the surface or **seeps in the ground**, which may later be seen as **groundwater**.
- Eventually the water **reaches the oceans**, which are the largest water bodies and the biggest source of water vapor.
- Above cycle **repeats** again and again.



Project Idea

Mini Water Cycle

- Take a clear plastic container (a cake display container will work fine). On the base of the container, spread some soil and spray some water on it to make it damp.
- Then spread some moss over it. Now, take a small bowl and fill it halfway with water and place it in the center, and scatter few pebbles around.
- Now, you have created an Earth-like environment. Place the lid carefully to seal the container, and leave the container in the Sun. Soon, you will observe a mini water cycle.
 - The water from soil, moss, and the bowl will evaporate due to the Sun's heat, condense on top of the container roof, and once the drops become large, they will fall back down.



Lets revise via watching video

<https://www.youtube.com/watch?v=ncORPosDrjI>



Few Questions

1. Where does the energy that powers the water cycle come from?

- a)plants
- b)animals
- c)electrical outlets
- d)the sun

2. What is the correct term for moisture that falls to the ground from clouds?

- a)Condensation
- b)hibernation
- c)evaporation
- d)precipitation

3. True or False: condensation is part of the water cycle.

- a)True
- b)False

4. What is evaporation?

- a)Water freezes
- b)Water vapor meets cold air and changes back into a liquid
- c)Water gets warm and changes from liquid water to water
- d)Plants take in water from soil

5 What is the correct term for rising water vapor meeting colder air and turning back into water droplets?

- a)dehydration
- b)evaporation
- c)condensation
- d)precipitation

6. What is the only thing in nature that can be a solid, liquid, or a gas?

- a) oxygen
- b) hydrogen
- c) water
- d) helium

7. True or False: When a liquid changes to a gas it is called precipitation

- a) True
- b) False

8. Evaporation, condensation, and precipitation are all parts of the _____.

- a) Cycle of seasons
- b) water cycle
- c) fog cycle

9. When gas changes to a liquid it is called _____.

- a) condensation
- b) precipitation
- c) evaporation

Answers

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