

The Crown Estate Sustainability Initiative The Water Cycle

You will learn about the processes of the water cycle and why it is important to protect our freshwater systems.



Reflecting on gameplay

2

1. Where is the world based?
2. What has happened so far?
3. What do you now know about the history of the park?
4. Which jobs have we met so far?



What is water used for?

3

1. How is water used to stay clean?
2. How is water used to keep us healthy?
3. Have you used water today?
4. What other forms can water take? (e.g. ice cubes in drinks)
5. How is water used outdoors/in nature?

Challenge

Come up with 20 uses of water as a class.



What is water used for?

4

Water usage categories:

1. Drinking and cooking
2. Hygiene and sanitation
3. Agriculture
4. Industry
5. Energy production
6. Recreation
7. Wildlife and ecosystems



If I was a water vapour...

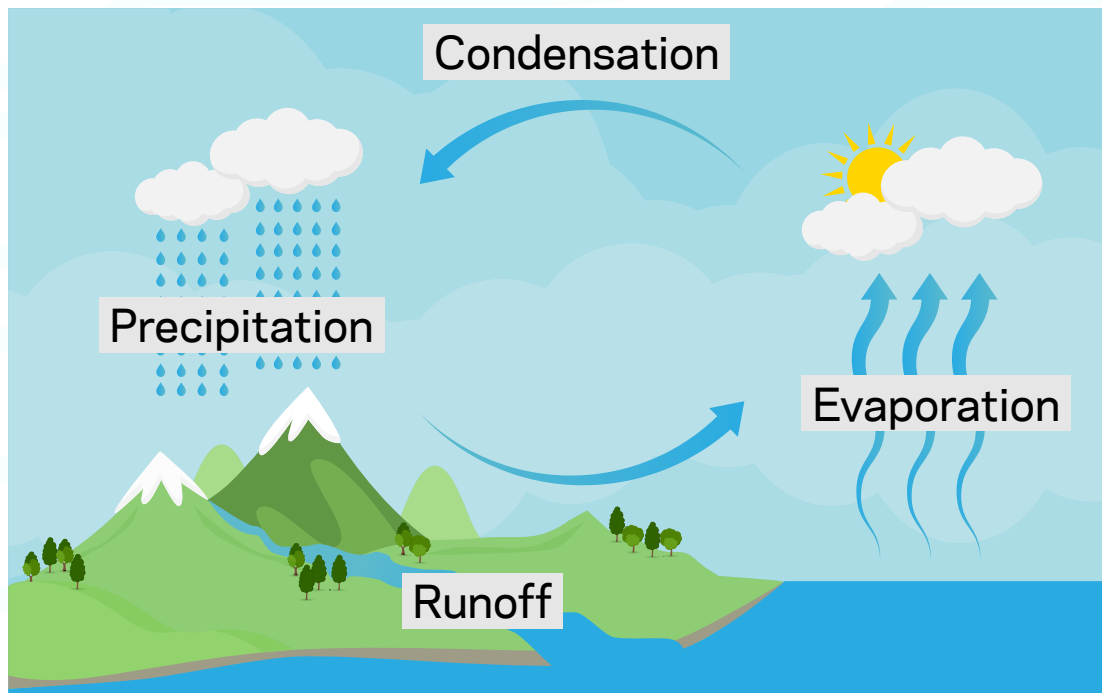
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- Can you remember how the water cycle works?
- If you were water vapour, what would you like to return to Earth as?

Do I understand the key terms for the water cycle?

6



Key terms:

Evaporation
Condensation
Precipitation
Infiltration
Transpiration
Runoff
Water stored
Cycle

Create a storyboard of the water cycle

7

Write sentences describing the process and then draw a picture:

Tell the story:

Evaporation happens when ponds, lakes and the ocean are warmed by the sun.

Key terms: **evaporation, sun**

Then:

Key terms: **condensation**

Key terms: **precipitation**

Key terms: **runoff**

Key terms: **infiltration**

Key terms: **water stored**

Key terms: **evaporation**

Finally...

Key terms: **cycle**

The water cycle

8

Evaporation happens when water in ponds, lakes and the ocean is warmed by the sun, then it **condenses** and forms clouds. **Precipitation** occurs and the water either runs on the surface of the earth as **runoff** or the water **infiltrates**, sinking into the ground. The water can be **stored** in the ground and used by plants; this is **transpiration**. Water can also be **stored** in lakes and oceans. Finally, the stored water **evaporates**, continuing the **cycle**.

Key terms:

Evaporation

Condensation

Precipitation

Infiltration

Transpiration

Runoff

Water stored

Cycle

Which jobs did you see in the world that are related to the water cycle?

9



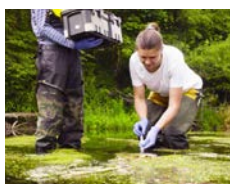
Role descriptions

10

Role descriptions Worksheet

PROCESS: TRANSPIRATION AND EVAPORATION
EXPERT: ERICA THE ECOLOGIST

Evaporation is the process of turning from liquid into vapour. Evaporation of water happens faster in hot weather. **Ecologists**, who study living organisms in the environment, are important as plants and the water cycle are linked. **Transpiration** occurs when plants take up liquid water from the soil and release water vapour into the air from their leaves.



PROCESS: WATER IN RIVERS, LAKES & PONDS
EXPERT: HECTOR THE HYDROLOGIST

Hydrologists study freshwater. Surface freshwater is any body of water on land that is above ground. It can be found in streams, rivers, lakes, wetlands and reservoirs. Monitoring water quality and flow is important as this water is used to provide drinking water to our homes.



PROCESS: UNDERGROUND WATER
EXPERT: HEIDI THE HYDROGEOLOGIST

Much of the Earth's freshwater is under our feet and is studied by **hydrogeologists**. As surface water filters into the soil and rocks it becomes **groundwater**. Although we can't see this water it is an important store of fresh water. Underground reservoirs of water are called aquifers.



1

Questions Worksheet

ANSWER THE FOLLOWING QUESTIONS.

The main skills this role requires are:

This role is important because:

The most exciting thing about this role is:

2

Job challenges

11

1. **Hydrologists:** we have had a whole month of heavy **precipitation**, how might that impact other parts of the cycle?
2. **Ecologists:** In a recent survey, we found the amount of **detritus** in the ponds was reduced. How might this affect the food chain?



Reflection

12

- A fact / new definition I learned today about the water cycle is...
- Something I learned about Hydrologists/Ecologists is...
- Something I found challenging was...
- One thing I will do to save water is...

