

Topic based resource

Water

Upper Key Stage 2

Eco-Schools



Ariennir gan
Lywodraeth Cymru
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3 GOOD HEALTH
AND WELL-BEING



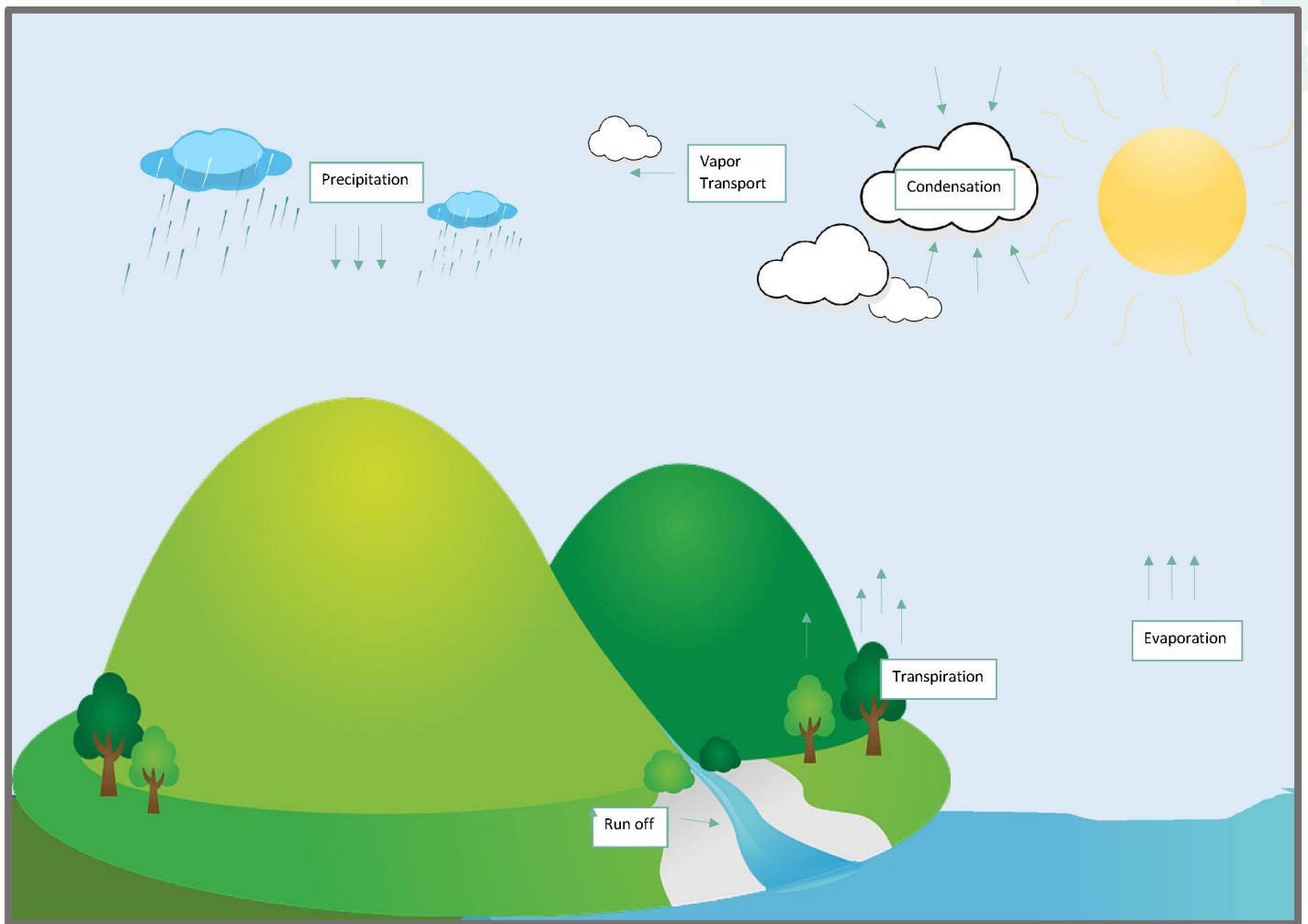
14 LIFE
BELOW WATER



cadwch keep
gymru'n wales
daclus tidy

Background information

Water is one of the most important natural resources on Earth and we must learn to protect it. It is important to understand how water goes in a cycle and even after we have used it, the water continues its journey around the circle. Through learning about the water cycle they will also start to understand what clouds are, how trees are involved in the process and how humans have the power to disrupt the whole process.



Climate perspective

Although water flows in a cycle there is a delicate balance, and it is important that humans do not misuse water as this can upset the cycle. By using too much water from one area it can cause drought in that area. When water flows through our sewer systems it takes energy to convert it back into clean water so that it can be reintroduced to the cycle. We know that overuse

of energy is one of the main causes of climate change which in turn is having an effect on the water cycle by raising sea level. This is one of the factors in causing extreme weather events including flooding. It is important that children understand the water cycle and their role in conserving water.

Water Cycle Tai Chi and Water in a bottle

Upper KS2

These activities together will help the children to piece together the cycle the water goes on without our assistance. The matching activity gives them the opportunity to work in teams to piece it all together and look at the terminology used. The 'Tai Chi' brings in more movement and takes them through the cycle step by step. By bringing in whole body movements as well as saying the words, they will find it easier to remember the different stages and the terminology associated. To consolidate the learning, they can watch the cycle happening within the contained environment of the bottle/bag

Materials needed:

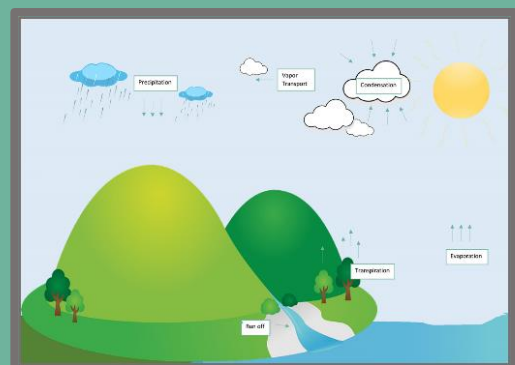
- Terminology cards
- Water cycle pictures
- Water cycle diagram
- Empty plastic bottle/bag
- Marker pens



Before the session distribute the pictures and labels around the area. If you have a large group, you may want to print several sets.

Step 1

If the group have not learnt about the water cycle before it would be a good idea to show them the full water cycle diagram, talk through the stages and explain what the different terms mean.



Step 2

Working in groups if you prefer, ask the children to find a full set of pictures and terminology cards and then match them up. They can then lay all the cards out on the floor and talk through the cycle.



Step 3



The sun



Shining on the water



Evaporation



Condensation



Vapour flow



Precipitation



Rivers Flow



Out to the Sea

Water Cycle Tai Chi

Tai Chi is a combination of breathing, relaxation, and flowing movements. In this activity we have combined elements of the water cycle with our own take on Tai Chi. Using the whole body will help the children to remember and understand the different processes including the scientific terminology such as precipitation and condensation.

1. Ask all the children to stand in a space and take a deep breath.
2. Stretch up their right arms and spread their fingers like the rays of the sun – “Sun”.
3. Move the right arm down across the body “the sun shines on the water”.
4. Move arms across the body keeping the hands low and using the fingers like ripples on the waves.
5. Begin to raise the outstretched arms on either side of the body wiggling the fingers “the warm water begins to evaporate”.
6. At the top of the circle bring the arms back down quickly to form a cloud shape and at the same time raise one leg (this causes entertainment as everyone tries not to fall over!) “As the warm air cools the water particle form a cloud, this is condensation”.

7. Move arms out to the right (the cloud moving over land) “As the cloud moves over the land it becomes denser and heavier – vapour transport”.
8. Lower the arms down wriggling fingers to show the rain falling “the water falls as rain, this is precipitation”.
9. Use the fingers and hands to show the river flowing across the body “as the water gathers on the land it flows into streams and rivers – run off”
10. Stretch the arms to the left side of the body and move them apart “the rivers flow across the land and out into the sea”

Repeat this sequence several times until the children have got the hang of it.

Step 4

Water cycle in a bottle or bag

The water cycle can be recreated in a bottle or bag to help children understand what happens.

An empty sealable plastic bag or plastic bottle of any size can be used for this although a larger bottle makes it easier to see the process. Hold the bottle upside down (cap at the bottom)

Using marker pens the children can draw a landscape including the sea, mountains, and rivers. They also need to draw on clouds and label with the terms of the water cycle such as evaporation, condensation, and precipitation. Partly fill the bottle with water. You can add blue food colouring to help with the visual presentation, but it is not essential. Put the bottle/bag in a warm place and wait. As the water warms up and starts to evaporate the water vapour forms droplets and falls back to the ‘sea’ as ‘rain’.



Curriculum Links

Area of Learning and Experience - Humanities

Statement of What Matters:

Human societies are complex and diverse, and shaped by human actions and beliefs.

Area of Learning and Experience - Science and Technology

Statement of What Matters:

The world around us is full of living things which depend on each other for survival.

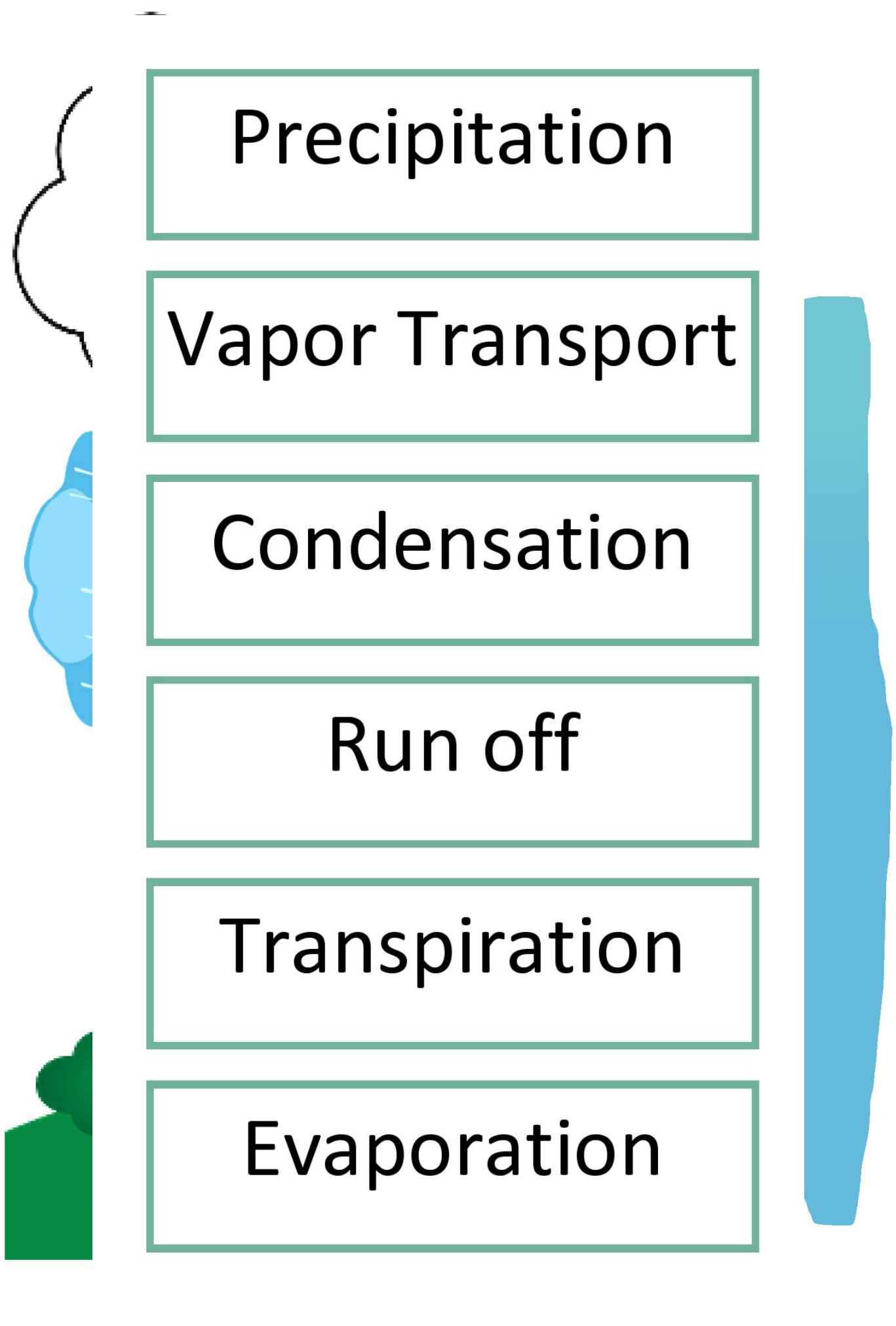
Next steps and other ideas

- Investigate what happens to waste water once we have used it and how it is cleaned.
- Research places in the world that do not have access to clean water. How do they manage? What can be done to help?

Useful Websites

<https://corporate.dwrcymru.com/en/community/education/teaching-resources/primary-resources/waste-water>

<https://www.wateraid.org/uk/publications/the-water-cycle-lesson-plans>



Precipitation

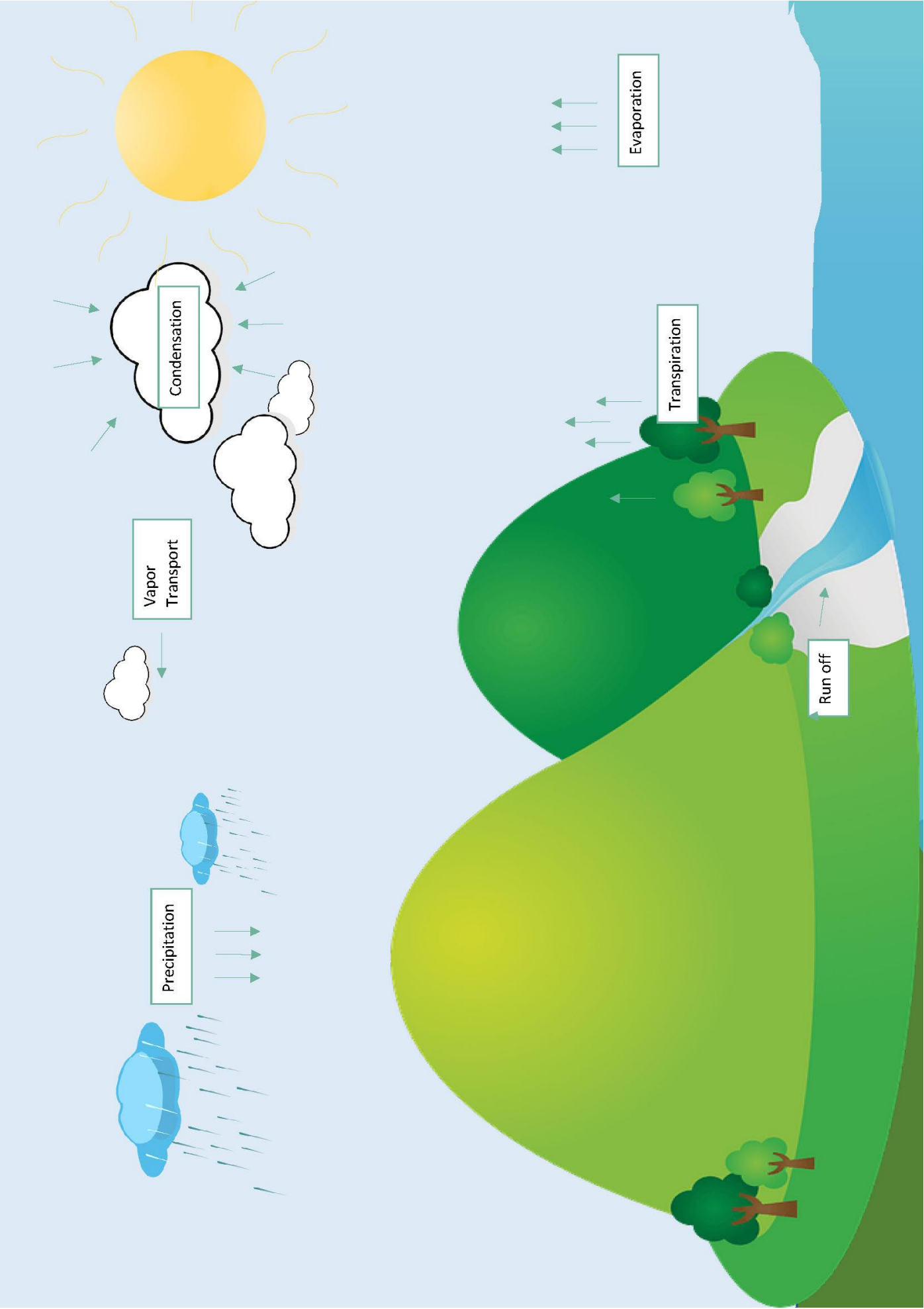
Vapor Transport

Condensation

Run off

Transpiration

Evaporation





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