SCIENCE CEILIDH
TEACHER PACK

EXPLORE THE WATER CYCLE AND CLIMATE CHANGE&CREATE DANCE AND SOUNDSCAPES

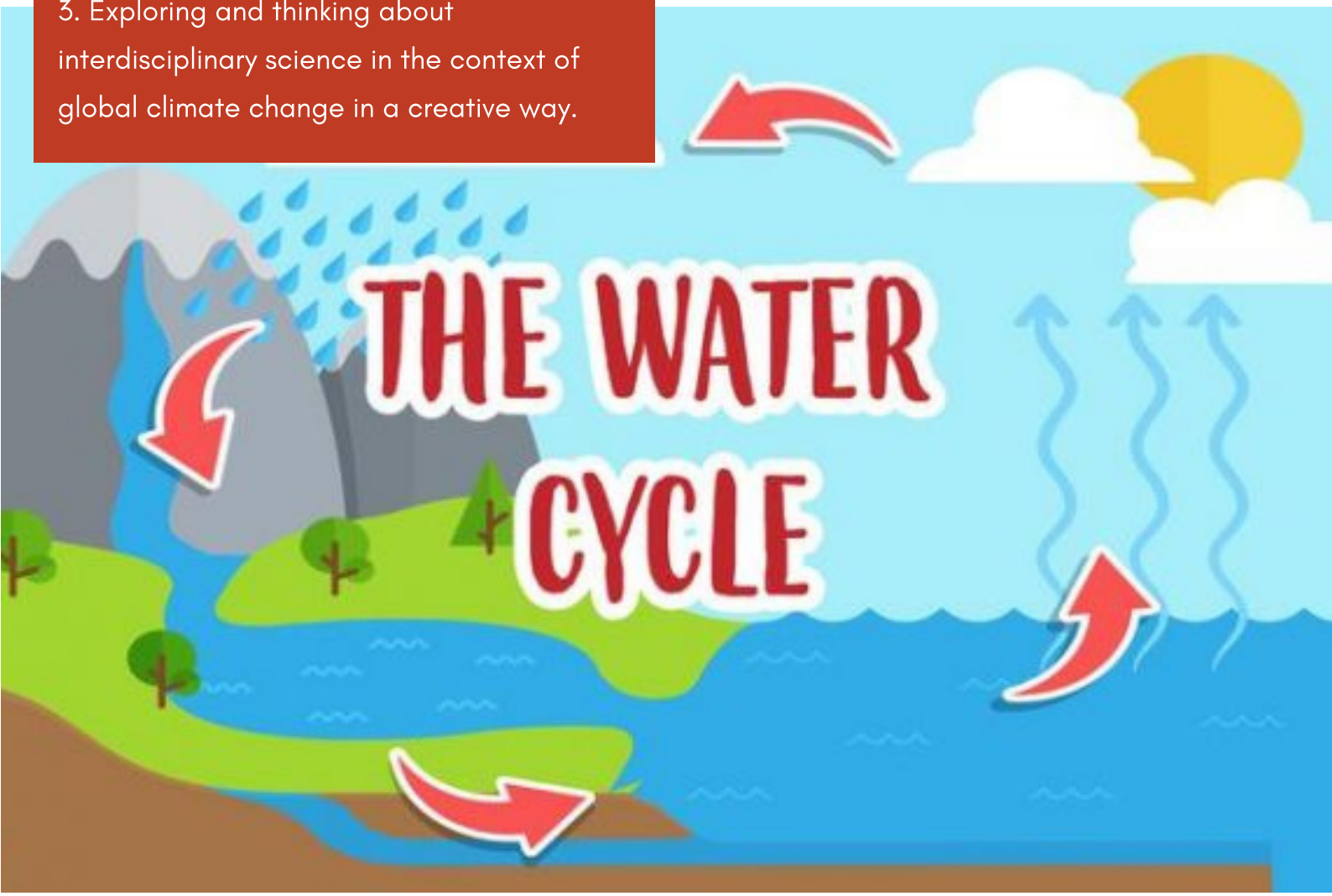
WATER CYCLE MUSICAL JOURNEY

LEARNING INTENTIONS

1. Understanding the process of changes in the water cycle and how it is linked to climate change.
2. Using a variety of sounds and dance movements to represent different stages of the water cycle.
3. Exploring and thinking about interdisciplinary science in the context of global climate change in a creative way.

By investigating how water can change from one form to another, I can relate my findings to everyday experiences.
SCN 0-05a / SCN 1-05a

I can apply my knowledge of how water changes state to help me understand the processes involved in the water cycle in nature over time.
SCN 2-05a

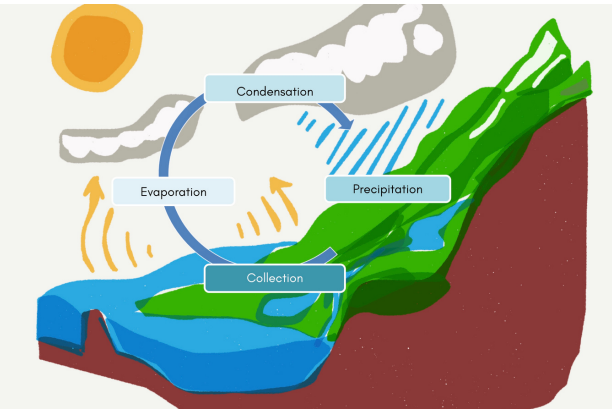


BY JIANING WU

FREELY ACCESSIBLE
HTTPS://WWW.SCIENCECEILIDH.COM/PLACEMENTRESOURCES#PLACEMENT-WATER-CYCLE

WATER CYCLE

The water cycle describes the continuous movement of water on, above, and below the surface of the Earth. It explains how water moves as a liquid, gas, and solid, which involves exchanging energy and leading to temperature changes.

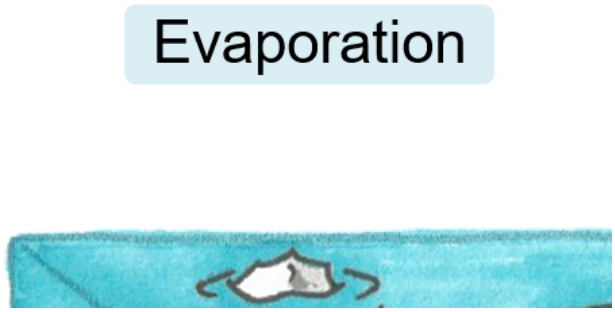


THE FOUR STAGES OF THE WATER CYCLE

Water on Earth is constantly moving, changing state (from liquid to gas, to solid) and being recycled. The water cycle is the journey water takes as it moves from the land to the sky and back again. There are 4 main stages in the water cycle: evaporation, condensation, precipitation and collection.

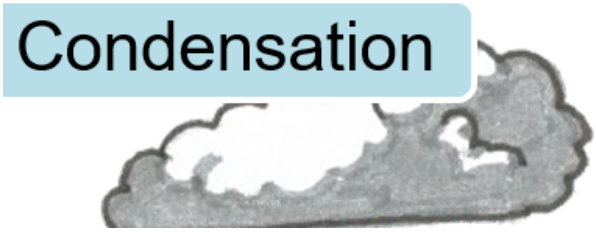
Evaporation

Evaporation is when the sun heats up water in rivers or lakes or the ocean and turns it into vapour or steam. The water vapour or steam leaves the river, lake or ocean and goes into the air.



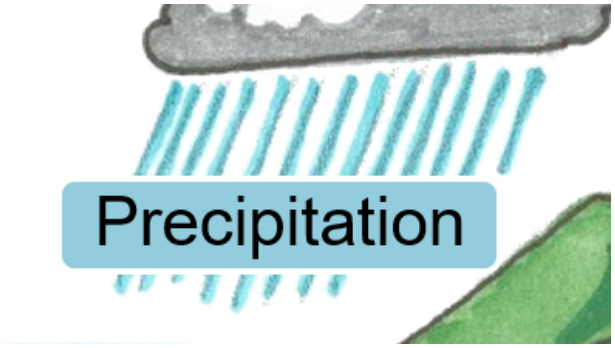
Condensation

Convection in the water cycle is when the air near the surface is heated, then rises taking heat with it. Water vapour in the air gets cold and changes back into liquid, forming clouds. This is called condensation.



Precipitation

Precipitation occurs when so much water has condensed that the air cannot hold it anymore. The clouds get heavy and water falls back to the earth in the form of rain, hail, sleet or snow.



Collection

When the water falls to Earth it collects as streams, rivers or lakes. When it falls on land in can filter into the Earth and become groundwater or flow over the land as run off to meet existing water bodies.

REAL WORLD EXAMPLES

Morning dew on the grass

Clouds in the sky

Rain falling down

Moisture Beads on Car Windows

Water freezes in winter

BRAINSTORMING

Q1: What other water cycle phenomena have you seen?

AN: Water evaporates in summer, river seeps into the land.

Q2: Do you know the types of the water cycle?

AN: Circulation between land and sea, internal circulation on land and internal circulation at sea.

Q3: What do you think the water cycle means to humans and nature?

AN: Maintain the global water balance, affect the global climate and ecological environment, shape the surface of the earth, etc.

Q4: What can we do to protect the water cycle system?

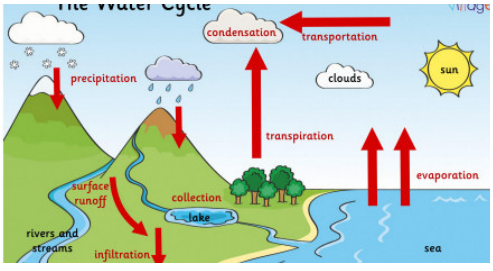
AN: Reduce wastewater discharge, save water in daily life, etc.

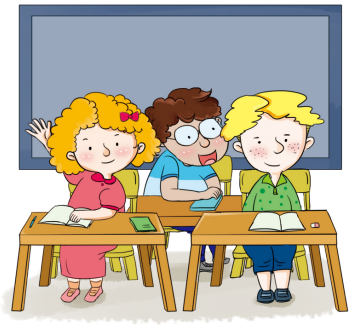
Q5: If most rain comes from ocean water that's turned to vapour, why isn't it salty?

AN: When the water in the ocean becomes a vapour, the salt is left behind.

Fun Water Cycle Facts for Kids by Easy Science For Kids:

http://bit.ly/watercyclemusicaljourney1





THE WATER CYCLE SONG BY HOPSCOTCH

Listen to the song and answer the questions!

http://bit.ly/watercyclemusicaljourney2

QUIZ GAME

There are several questions and answers about the water cycle and climate change for students to think and explore:

1) The journey that water takes as it moves from the land to the sky and back again is called the water ____.
AN: cycle

2) What are clouds in the sky made of?
AN: Water droplets

3) How does water in the sea become clouds in the sky?
AN: Through evaporation

4) When the raindrops get heavy in clouds, they fall as snow, hail or rain. This is called ____.
AN: precipitation

5) Where does rainfall get collected before it returns to the sea?
AN: Lakes and rivers

RESEARCHER INFORMATION

Dr. Ana P. Barros is a professor at Duke University's Department of Civil and Environmental Engineering. Her research is primarily focused on hydrology and climate modelling. She works to find new insight into clouds and rain – things that may seem simple on the surface but are actually full of complexity.

Learn more information about Ana P. Barros at http://bit.ly/watercyclemusicaljourney3

FURTHER LINKS

You can find more relevant resources on Science Ceilidh:
https://www.scienceceilidh.com/watercycle
https://www.scienceceilidh.com/climatechange