Year 2 - Science

Teacher Guide: The water cycle

Water is the most precious resource on earth. The *water cycle* describes the way water moves around the planet in a continuous cycle driven by the sun and how it changes form. The earth has been recycling water for over 4 billion years.

Evaporation: energy from the sun (light and heat) warms the earth's surface causing the temperature in our lakes, rivers and oceans to rise. Some of the water evaporates into the air turning into a gas called vapour. Plants and trees also lose water through their leaves into the air, this stage is called transpiration.

Condensation: the vapour rises into the air and the cooler temperature changes the form of water back to a liquid (condensation). The liquid droplets join together to form clouds that are moved around by air currents.

Transpiration: is the process where plants absorb water through the through the roots and then give off water vapour through pores in their leaves.

Precipitation: when the clouds become too full and heavy of water droplets for the air to hold them, they fall back to earth as rain, hail, sleet or snow. This is called precipitation.

Collection: once water returns to the earth, it is collected in places such as rivers, lakes and oceans, where the process of evaporation will occur once more.

The word cycle in the water cycle, refers to a series of events that are repeated over and over.

Australian Curriculum

Learning Area Science	Content Descriptions
ACSHE034	Science involves observing, asking questions about, and describing changes in, objects and events
ACSIS038	Participate in guided investigations to explore and answer questions
ACSIS041	Compare observations with those of others
ACSIS042	Represent and communicate observations and ideas in a variety of ways
Cross-curriculum priorities	Sustainability
General capabilities	Literacy, Critical and Creative Thinking, Personal and Social Capability

Learning goals

Know:

- The names and stages of the water cycle.
- Water can be solid, liquid and gas.

Understand:

- That water moves in a continuous cycle.
- The water cycle happens all around us (the atmosphere, lakes, oceans and rivers are all connected through the water cycle).

Do:

- Represent understanding through structured activities.
- Engage in scientific procedures, observe and record findings.

Achievement standard

By the end of Year 2, students

Science

… describe changes to objects, materials and living things …they identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.

… pose and respond to questions about their experiences and predict outcomes of investigations … they use informal measurements to make and compare observations … they record and represent observations and communicate ideas in a variety of ways.

Teaching and learning resources

- YouTube video '*How does rain form and what is the water* cycle?'
- https://www.youtube.com/watch?v=zBnKgwnn7i4 (published April 16, 2014).

  It is recommended that the video is set up prior to class or student viewing.

Materials	Number
Smart board or projector	1
Internet connection	1
Water Cycle poster	1
Optional depending on activity	
Colouring-in sheets	
Activity sheets	
Paper plates	
Collage materials (including pencils or pens)	
Glass bowl – per experiment	
Drinking glass – per experiment	
Cling wrap	
Hot water	
Ice	

Adjustments / strategies to include all students

	Enabling	Extending
Content:	As required explore the water cycle poster in advance with students and identify key vocabulary	Students compare and contrast alternate water cycle diagrams on the internet and select one that provides the most information that you also understand
Process:	Guide students one-to-one where necessary to explain the unit	Provide students with access to undertake their own research of key words or environmental impacts on the water cycle
Product:	Make up mimes to the new vocabulary form the water cycle for others to guess	Students create their own explanation of the water cycle including images such as posters, brochures, film, etc

Evidence of Student Learning

Students are able to:

- Describe the stages of the water cycle.
- Use the scientific words for each stage.
- Make connections between the weather and the water cycle.
- Describe the forms of water.

Group reflection

Refer to *Elaborate and Review* in each Lesson Plan.

Teacher reflection

- What went well?
- What could be improved?
- How might you deliver this lesson differently next time?

Feedback

If you would like more information or to provide feedback please contact our Education Coordinator at education@hydro.com.au