

Year 3

Lesson 1

The water cycle

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Learning objectives

Students will be able to:

- recognise that water is part of a natural cycle
- recognise that water changes shape, taste and form
- distinguish between salt and fresh water

Learning outcomes

Subject	Strand & content descriptors
Science	<p>Science understanding:</p> <ul style="list-style-type: none"> • A change of state between solid and liquid can be caused by adding or removing heat. (ACSSU046) <p>Science as a human endeavour</p> <ul style="list-style-type: none"> • Science involves making predictions and describing patterns and relationships. (ACSHE050) • Science knowledge helps people to understand the effects of their actions.(ACSHE051) <p>Science inquiry skills</p> <ul style="list-style-type: none"> • With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge. (AC SIS053) • Suggest ways to plan and conduct investigations to find answers to questions.(AC SIS054) • Represent and communicate observations and ideas in a variety of ways such as diagrams, physical representations and simple reports. (AC SIS060)
Geography	<p>Geographical knowledge & understanding</p> <ul style="list-style-type: none"> • Space: Natural resources are found in particular locations or environments.
English	<p>Literature</p> <ul style="list-style-type: none"> • Listen to and contribute to conversations and discussions to share information and ideas and negotiate in collaborative situations. (ACELY1676) • Use interaction skills, including active listening behaviours and communicate in a clear, coherent manner using a variety of everyday and learned vocabulary and appropriate tone, pace, pitch and volume. (ACELY1792) <p>Literacy</p> <ul style="list-style-type: none"> • Plan, draft and publish imaginative, informative and persuasive texts demonstrating increasing control over text structures and language features and selecting print, and multimodal elements appropriate to the audience and purpose. (ACELY1682)



Important questions

- Why is water important?
- What do we use water for?
- What is the water cycle?
- Are there different types of water?

Background information – the water cycle

More than 70 percent of the earth's surface is covered by water. However, most of it – 97 percent is salt water. Ice makes up two percent and only one percent is suitable for drinking.

The amount of water on our planet does not change. It is recycled continually – the hydrological or water cycle. As water travels through the cycle it changes taste, shape and form. Three major processes drive the water cycle: evaporation, condensation and precipitation. Transpiration is also important.

- **Evaporation:** when water is heated it changes from liquid to gas (water vapour) – the sun heating the ocean produces most of the water vapour in the atmosphere.
- **Condensation:** as water vapour rises, it cools and changes into tiny droplets of water seen as clouds, fog or mist.
- **Precipitation:** rain, hail or snow – as water vapour continues to rise, the water drops join and become heavier and eventually fall out of the air.
- **Transpiration:** water emitted by plants through pores in the leaves is evaporated and released into the atmosphere as water vapour.

Linking locally

Elements of the water cycle can be easily observed in your local district:

- Rainfall evaporating from a footpath.
- Clouds of water vapour moving from the ocean toward the hinterland.

The city of Logan is dominated by the catchment and tributaries of the Logan and Albert rivers. Covering over 4,000 square kilometres, the catchments drain to Southern Moreton Bay.



Lesson plan – the water cycle

- Ask students to prepare and deliver a short speech describing how they use water. The speech should mention both an everyday use and an occasional or favourite use. Encourage them to consider where the water they use comes from and where it goes after they have used it.
- Use **Activity sheet 1 ‘The water cycle’** to discuss how water moves through the environment and how it changes. Student explanation of related phenomena, such as washing drying on the line, or puddles evaporated, should be encouraged to reinforce key concepts.
- With the students prepare the water samples as per the directions in **Activity sheet 5 ‘Water samples’**. Adding ingredients to water samples incrementally will also allow students to predict changes in water taste and enable more detailed descriptions of their observations.
- Undertaking the additional activities provided below in association with the taste test will add value to the lesson.
- Ask students to sample the types of water and to lick the ice cubes, to describe the tastes and sensations in one or two words. Ask which water tasted the best.
- As a group discuss the findings associated with the water samples, including the requirements for clean water associated with human health and growing food.
- As a culminating exercise, students produce texts, using various print and digital resources that demonstrate an understanding of the water cycle, including the use of correct terminology, and how it interacts with societal needs.

Resource requirements

- Activity sheet 1 ‘The water cycle’
- Activity sheet 5 ‘Water samples’
- Student self evaluation sheet 1

Additional activities

Illustrating the water cycle

Boil water in a kettle or jug. Observe the steam. Place the kettle or jug next to a window or mirror to observe how the steam cools and water drops form.

Illustrating the water cycle

To demonstrate evaporation, place water in two identical jars or containers. Mark the water level and place a lid on one jar. Put both jars on a windowsill and record the changes in water level daily.