

Introduction to the water cycle

Students will learn about the water cycle through song and observe a water cycle experiment. Extend student understanding of the water cycle through a Lego display, integrating stop-motion to bring their display alive.

Subject area:

Science

Year level:

Year 2

Learning objectives:

- Understand that Earth’s water moves in a continuous cycle.
- Understand the water cycle vocabulary.
- Demonstrate understanding of the main features of a poster.

Curriculum links

Science understanding	ACSSU032
Science as a human endeavour	ACSHE034

Cross curriculum priorities- Sustainability

OI.1	The biosphere is a dynamic system providing conditions that sustain life on Earth.
OI.7	Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.

General capabilities



Literacy



Information and communication technology (ICT) capability



Critical and creative thinking



Personal and social capability

Activity 1

Introduction to the water cycle

Students will draw similarities between a teacher demonstration of the water cycle steps and the natural water cycle.

Time required:

1 hour

Resources required:

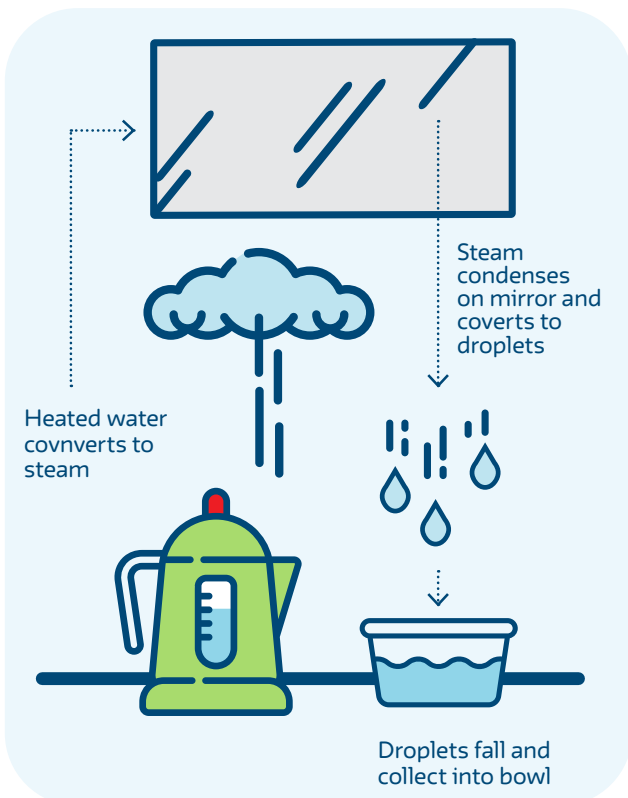
- Kettle or small pot (if using the small pot, you'll need access to a stove top)
- Mirror
- Empty bowl
- Whiteboard and markers
- [Activity page 1: Labelling the water cycle](#)
- A screen to view a video

Preparation:

1. Information on Perth's water sources can be found on [Water Corporation website](#).
2. Ensure access to the [Water cycle song](#) video.

Steps:

1. Watch the [Water cycle song](#) as a class to introduce water cycle terminology. You may wish to pause the video to re-iterate the terms used.
2. Demonstrate the water cycle for the students.
 - a. Boil a kettle or small pot of water.
 - b. Hold a mirror adjacent to the kettle or small pot of water to catch the steam as it boils.
 - c. Allow the water to condense on the mirror, forming into droplets and drip off the mirror.
 - d. Ask the students what they can see happening to the steam as it rises and lands on the mirror.
3. Illustrate the experiment with a simple diagram on the whiteboard. The liquid water heated by the kettle (the heat source) became steam. When the steam touched the cold mirror it condensed, forming droplets on the mirror. As the small droplets joined together they formed heavier droplets and ran down the mirror, falling back into the bowl.
4. Let the students know that this cycle is actually very similar to the natural water cycle in the environment.
 - a. Replace the kettle image with a drawing of the sun. Ask the students what the sun would be heating. Draw the ocean and vertical lines to illustrate water evaporating as it is warmed by the sun.
 - b. Ask the students where the water evaporating from the ocean would go. As it rises and cools, it forms into a cloud. Replace the drawing of the mirror with a cloud.
 - c. As the small droplets join together to make bigger drops in the cloud, what happens when the clouds need to lift over our hills? Show the cloud raining as it gets closer to the land.
 - d. When it rains, where does all the water go? Illustrate the rain seeping into the ground, and landing in our rivers, to then enter the ocean again.
5. Students to complete the [activity page 1: Labelling the water cycle](#).



➤ Extension Activity 1

Learning with Lego

Students will illustrate the steps of the water cycle using Lego blocks.

Time required:

1 hour

Resources required:

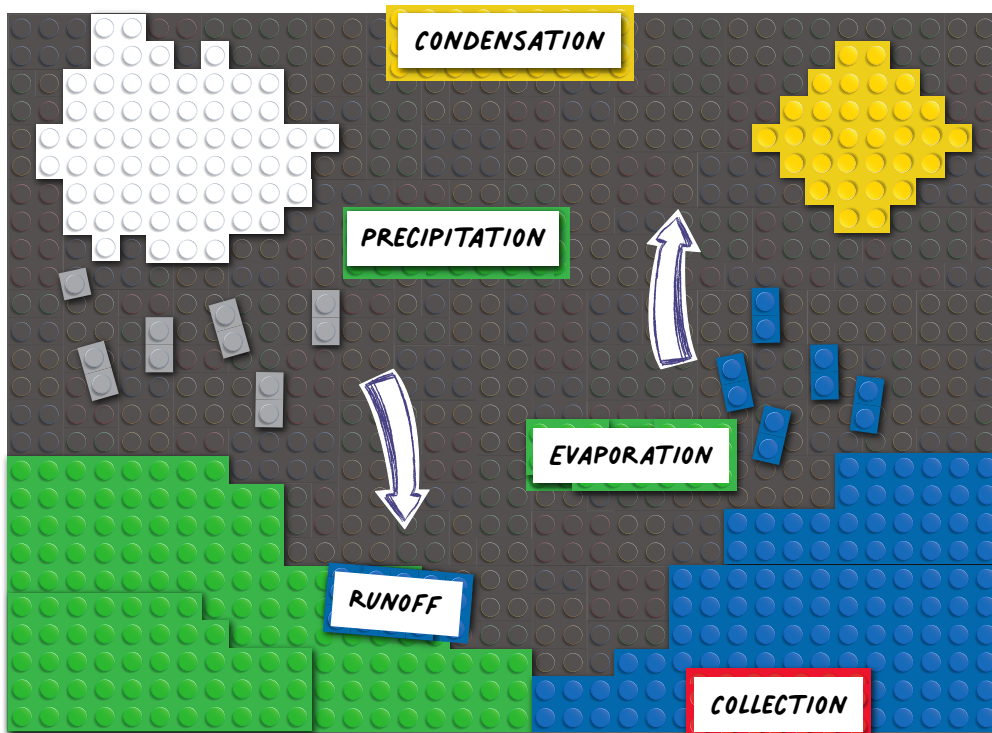
- **Lego blocks in white, grey, blue, yellow and another colour of your choice**
- **Lego base plates**
- **Completed activity page 1: Labelling the water cycle**

Preparation:

N/A

Steps:

1. Students create their own representation of the water cycle in their science book, using their labelled water cycle activity sheet.
2. Provide a collection of Lego blocks to students along with a base plate. The blocks will need to be four different colours: white for clouds, grey for rain, blue for rivers and ocean, and yellow for the sun. You can use the fifth colour to represent evaporation; otherwise the students can place a label on their model.
3. Provide time for students to create the water cycle using Lego. They may choose to illustrate a flat design on the base plate or a larger model.
4. Students can add special features to their design such as ducks or fish, as long as they can describe and illustrate the steps to the water cycle.



Let's make a water cycle movie

Using their Lego model, students will make their water cycle come to life using stop-motion animation.

Time required:

1 hour

Resources required:

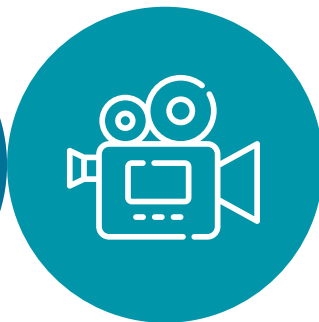
- iPads (students will need one iPad per pair)
- Completed water cycle Lego model per pair

Preparation:

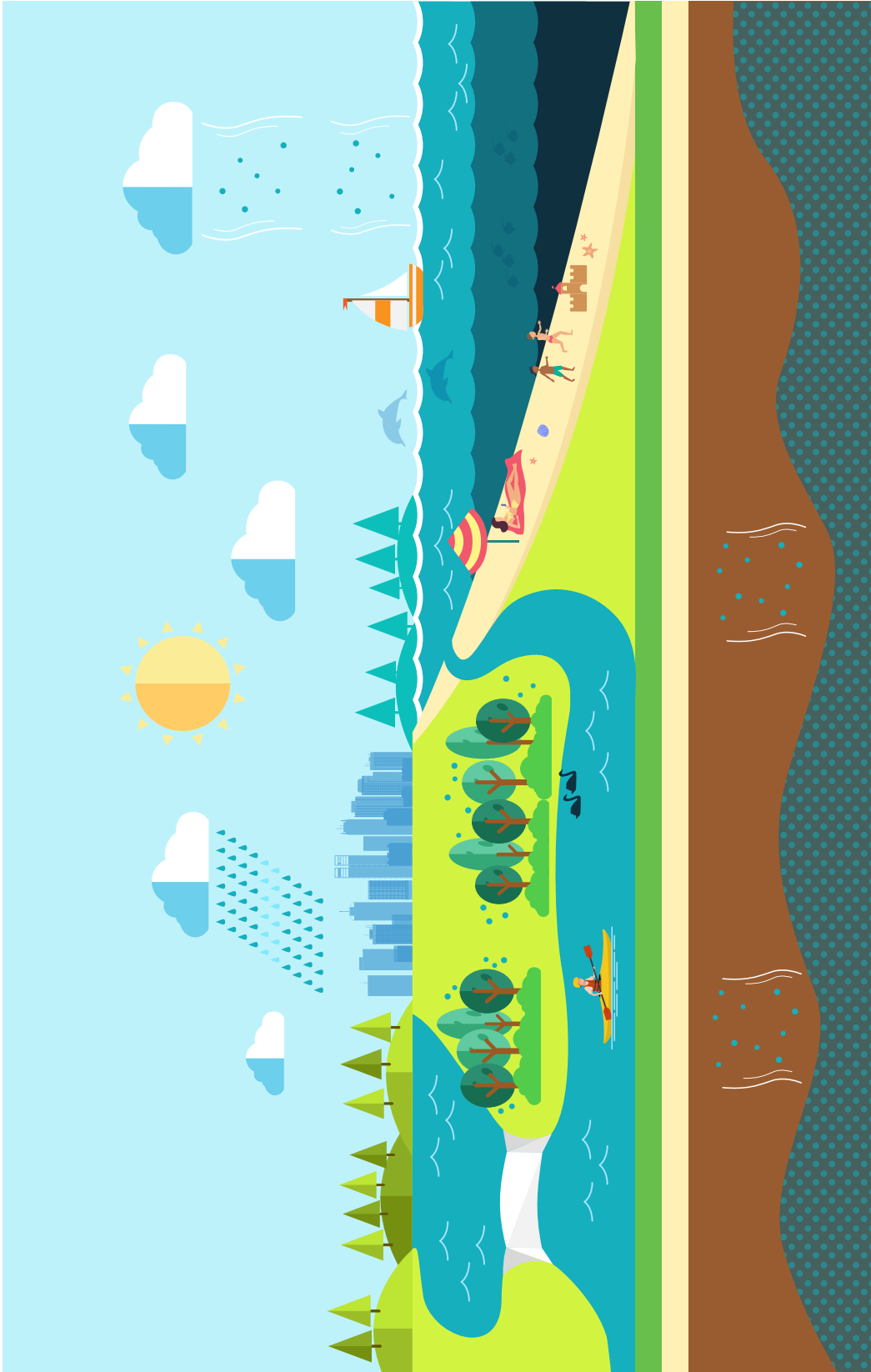
1. Download the [Stop motion](#) app onto the iPads

Steps:

1. Review the steps in the water cycle.
2. Working in pairs, students use their iPad to take photos of each of the steps of their Lego water cycle model. Each time they take a photo, they should slightly move a part of the model to show a change in the water cycle, such as small drops of rain falling or the clouds moving across the frame.
3. Using the [Stop motion](#) app, students import their photos in order into a new movie.
4. To ensure movie moves slowly, students click on each image to bring up the tools, pressing the pause button and moving toggle to at least four seconds, pressing done.
5. Together, students add a voiceover, alter the frames and edit the images to create their movie.
6. As students become more familiar with the app, the stop motion movie app encourages the maker to alter the scene slightly, taking many images, so when the movie plays it appears as if the scene is moving seamlessly.
7. As an extension, include an element of how Water Corporation supports the water cycle in the student movie. The Waterwise School team are always happy to view the completed animations and share them with the community.



Labelling the water cycle



Cut out the labels below and place on the parts of the water cycle above

Condensation

Ocean

Precipitation

Evaporation

Transpiration

Dam (surface water)

Groundwater