

# Awareness of water

Students will learn about the importance of water by observing where it's used around the school and home. Students will create their own grass head and investigate how water is vital for plants to survive.

**Subject area:**

Science

**Year level:**

Year 2

**Learning objectives:**

- Build awareness of water in everyday life.
- Consider what might happen to humans and plants if there was limited access to water.
- Identify actions at school, such as turning off dripping taps, which can conserve water.

Curriculum links

<i>Earth and space science</i>	ACSSU032
<i>Use and influence of science</i>	ACSHE035

Cross curriculum priorities- Sustainability

OI.1	The biosphere is a dynamic system providing conditions that sustain life on Earth.
OI.5	World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability
OI.7	Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments
OI.9	Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments

General capabilities



Literacy



Numeracy



Information and communication technology (ICT) capability



Critical and creative thinking



Personal and social capability

## Activity 1

# Dear water diary

Students will re-step their day so far, imagining how different it would be without available fresh, clean water.

### Time required:

1 hour

### Resources required:

- **Hard copy of the school grounds map**
- **Students will need a notebook and pen**
- **Whiteboard and markers**

### Preparation:

1. Print a copy of the school map for each student.
2. Read the waterwise advice on [Water Corporation website](#).

### Steps:

1. Using the school grounds map, take students on a walk to identify all the places where water is dispensed around the school, such as taps, drink fountains, sprinklers, toilets. Ask students to place a mark on their maps where these facilities are located.
2. In the classroom, discuss all the different places in the school where water is used. List these on the board. Ask the students what might happen if these facilities were suddenly not available. Talk about how the grass and some plants would die, we wouldn't have access to fill up our drink bottles, the toilets wouldn't flush!

3. Students create a diary entry of their morning so far as they prepared for school. Many of their tasks will need water (flushing the toilet, washing hands, brushing teeth, drinking, filling up their water bottle etc). Ask students to list all the things they can think of that they do before school (eat breakfast, pack their bag, play with their pet, drive/walk/ride to school).
4. To emphasise just how much we rely on and take water for granted, students then imagine waking up to a day without water. Students will place a line through each of the tasks in their diary which required water.
5. Ask students to share how their morning getting ready for school would be different without water and what they may do instead of using it.
6. Emphasise the importance of water in our daily lives. Discuss with students the many ways we can all conserve water at home and school to preserve this precious resource.



## ➤ Extension Activity 1

# All that sponge

Students will run an experiment to investigate how water seepage works around our water catchment areas of Perth.

### Time required:

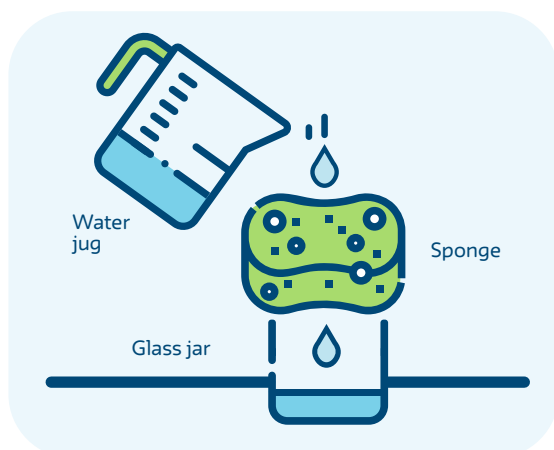
1 hour

### Resources required:

- **Screen to view a video**
- **Equipment for experiment:**
  - **One glass jar (or transparent plastic container) per group**
  - **One water jug per group filled with 50mL of tap water**
  - **3 different sponges for each group (natural sponge, dense cellulose cleaning sponge and microfiber sponge). Sponges must be able to sit over the opening of the jar/container.**
  - **3 different colour markers per group (same colours as used to label the sponges)**
- **Activity page 1: How water seepage works**

### Preparation:

1. [Dams and catchments](#) video.
2. Ensure the 3 different sponges for each group (natural sponge, dense cellulose cleaning sponge and microfiber sponge) are all large enough to sit over the opening of the group jars or containers.
3. Using 3 different coloured permanent markers, label each sponge 1, 2 and 3.
4. Print enough activity pages for each group.



### Steps:

1. As a class, watch the [Dams and catchments](#) video.
2. Ask the students why, when it rains, the water in the dams does not increase? Where does the water go? The water goes into the ground in our catchments, in between the soil and rocks and is soaked up like a sponge. The water continues to filter down into our aquifers.
3. Tell the students, "We are going to have a look at how water seepage works".
4. Divide students into pairs. Give each pair a small empty glass jar, a measuring jug with 50ml of water and three different types of sponges.
5. Guide students through experiment:
  - a. Place sponge 1 on top of the jar.
  - b. Pour the 50 mL of water through the sponge and into the jar.
  - c. Observe how much of the water stays in the sponge and how much is caught in the jar after passing through the sponge.
  - d. Once you are sure no more water is dripping into the jar, draw a small mark on the jar, in the same colour as the sponge number, to show where the water comes up to.
  - e. Pour the water in nearby plants.
  - f. Repeat steps 1 - 5 with the second sponge, using a different colour marker to mark the water level in the jar.
  - g. Repeat again for the third sponge, using a different coloured marker.
6. Students will then complete the questions on activity page 1: How water seepage works, and the following questions can be points of discussion as a class:
  - a. How did the size of the holes in the sponge change the water seepage?
  - b. Have students seen water seeping into the ground after it has rained?
  - c. Did they know that much of WA's drinking water comes from rainwater which has been seeping into the ground for thousands of years?

## ➤ Extension Activity 2

# Grass heads need water too

Students will investigate the impact of different amounts of watering on the growth of their grass head.

### Time required:

1 hour, plus one week  
for watering and observation

### Resources required:

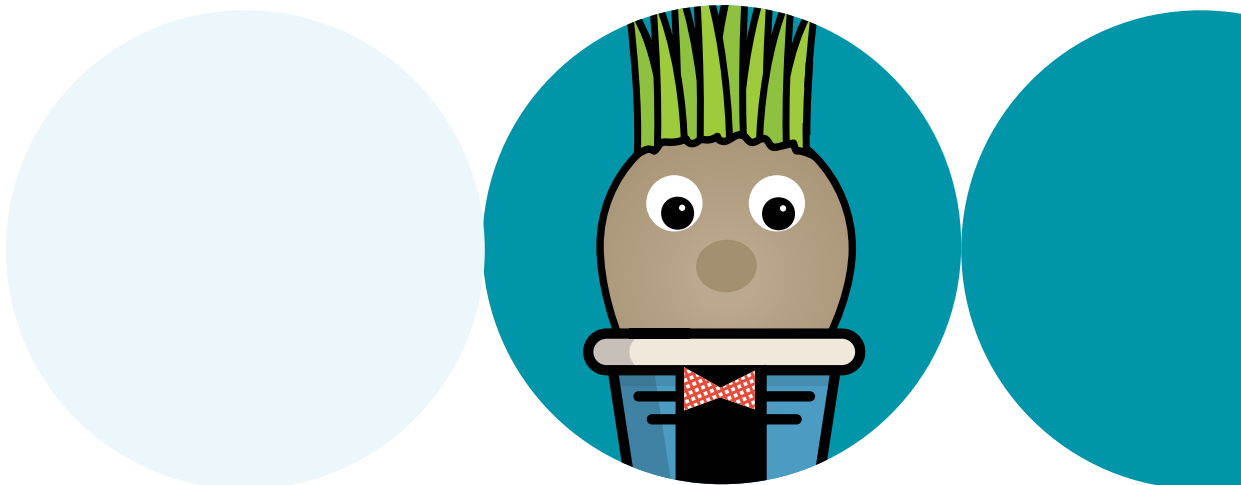
- **Activity page 2: How to make a grass head**
- **Camera per student**
- **iPad per student**
- **Book Creator app**
- **Strips of paper (enough for one per student)**

### Preparation:

1. Write a different watering condition on each strip of paper:
  - a.  $\frac{1}{4}$  cup of water every day
  - b.  $\frac{1}{4}$  cup of water once a week
  - c.  $\frac{1}{4}$  cup of water twice a week
  - d.  $\frac{1}{4}$  cup of water as required (i.e. when the "grass head" feels dry)
  - e. 2 droppers of water every day
2. Place the strips of paper in a hat

### Steps:

1. Make 'grass head' as per [Activity page 2: How to make a grass head](#) activity sheet.
2. Students to pick their watering guidelines from a hat. Students with the same watering conditions will place their "grass heads" together and display their watering instructions. Water according to the watering instructions.
3. At the end of each week, students will take photos of the different groups of grass heads and write notes of what they observe.
4. After 3 weeks, students will write up the results of their observations using [Book creator](#).



Activity page 1: How water seepage works.

# How water seepage works

Your group should have the following equipment:

- One glass jar (or plastic container)
- One jug of water with 50 ml of water
- 3 different sponges labelled 1, 2 and 3
- 3 different colour textas

## Instructions

1. Place sponge 1 on top of the jar.
2. Pour the 50 mL of water through the sponge and into the jar.
3. Observe how much of the water stays in the sponge and how much is caught in the jar after passing through the sponge.
4. Once you are sure no more water is dripping into the jar, draw a small mark on the jar, in the same colour as the sponge number, to show where the water comes up to.
5. Pour the water in nearby plants.
6. Repeat steps 1 - 5 with the second sponge, using a different colour texta to mark the water level in the jar.
7. Repeat again for the third sponge, using a different colour texta.

Answer the following questions based on the results of your experiment:

1. Which sponge held the most amount of water?

Sponge 1      Sponge 2      Sponge 3

2. How do you know your answer is correct?

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3. Which sponge held the least amount of water?

Sponge 1      Sponge 2      Sponge 3

4. How do you know your answer is correct?

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5. For us to tap into the water catchment, we need the water to seep through to the aquifer (glass jar). If the ground is too dry the water will sit on top and evaporate, or will only seep in a little bit. Which sponge allowed the water to seep all the way through to the aquifer?

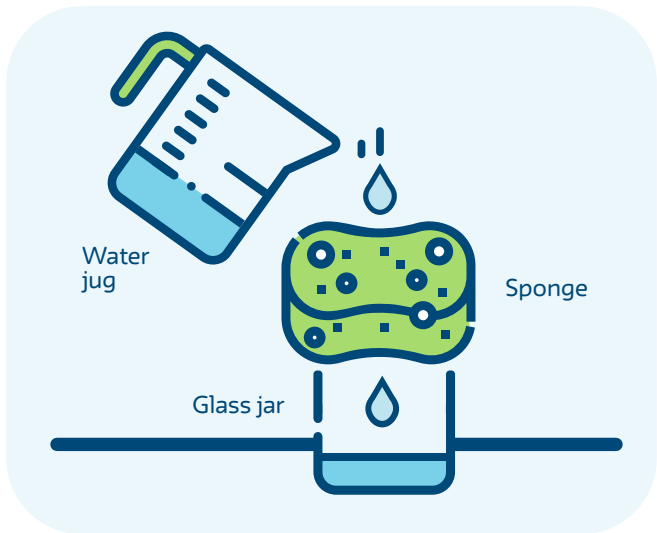
Sponge 1      Sponge 2      Sponge 3

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# How to make a grass head

Making grass heads is a fun little gardening project the kids will love watching grow. Here's what you are going to need:

## Resources

- Stocking
- Scissors
- Marker pen
- A container for the head to sit in (e.g. a clean yoghurt cup)
- Elastic band
- Craft glue
- Paper
- Googly eyes
- Felt/pipe cleaners for decoration
- Sphagnum moss/potting soil
- Spray bottle
- 2 tablespoons of grass seeds per grass head

## Safety

It's a good idea to supervise your kids during this project, especially when they're using scissors or glue.

## Instructions

1. Start by cutting out the feet of an old pair of stockings, just above the ankle.
2. Fill up your stocking starting with the grass seeds followed by the sphagnum moss and/or potting soil. Now tie it into about a tennis ball size shape to make your head.
3. Pinch the front of the head to make your nose then hold it in place with an elastic band.
4. Now put your face on. You can stick on some googly eyes, draw on a mouth and use your pipe cleaner to make some eyebrows or even a little moustache.
5. Next, glue some paper onto your plastic container and have some fun drawing on an outfit. You can even cut out a little tie shape to glue on.
6. Half fill your plastic cup with water and replace your head on top, so the stocking tail is dangling in the water. Now place it up on a window sill to get lots of sun. Give your grass head a little squirt of water with your spray bottle every day, and watch your grass head grow!

