

Year 2 science

How is water used?

Australian Curriculum links: Year 2 Science

Earth and space sciences – Earth's resources are used in a variety of ways (ACSSU032)

Sustainability cross-curriculum priority

In this lesson, students investigate the variety of ways water is used by plants and humans in four workstation activities.

Equipment and ideas

For the class

- [The water cycle poster](#)
- an enlarged copy of the 'How water is used' worksheet (resource 1)

For the workstations

- A copy of the resource 1 worksheet for each workstation.
- Workstation 1: Looking at leaves
 - magnifying glass and scissors
 - a selection of plant leaves from the cactus or succulent family and from ferns, lettuce, soft herbs like basil which have much higher water requirements.
- Workstation 2: How plants drink
 - two transparent containers, one holding tap water; one holding coloured water to put the celery in.
 - two sets of celery stalks with leaves attached. One set has been standing in coloured water overnight and the other set has not.
- Workstation 3: Water in me
 - mirrors
 - magnifying glass and drinking straws
- Workstation 4: Just add water
 - food that is cooked in water (e.g. rice, pasta, noodles, unpeeled vegetables)

For each student

- 'How is water used' worksheet (resource 1) [It is four pages long.]

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Preparation

Stand sticks of celery in coloured water overnight. Preferably use red or blue food dye to colour the water. Set up the learning stations around the room.

Lesson steps

1. Ask students to list the ways that living things use water. Record their initial ideas. You will return to these ideas later in the lesson.
2. Explain that water moves through the natural environment in a variety of ways. This is called the water cycle.
3. Display 'The water cycle poster' and ask students to look carefully and identify how the living things in the poster use water.
4. Referring to the poster, identify and discuss the different forms that water takes (liquid, water vapour or ice) as it moves through the water cycle.
5. Focus on the literacy elements of identifying and describing by highlighting terminology and descriptive language.
6. For the workstation activities, divide the students into small teams.
7. Display the 'How water is used?' worksheet (Resource 1) and explain how students complete the tasks for each workstation. Suggested time limit at each workstation is 15 minutes.
8. At the end of the workstation activities, compare student worksheet responses and discuss what they learned about how living things use water and refer back to their initial ideas (step 1). Record any new ideas about living things use of water.

The key ideas in each workstation are:

Workstation 1: Some leaves have special adaptations that enable them to store water.

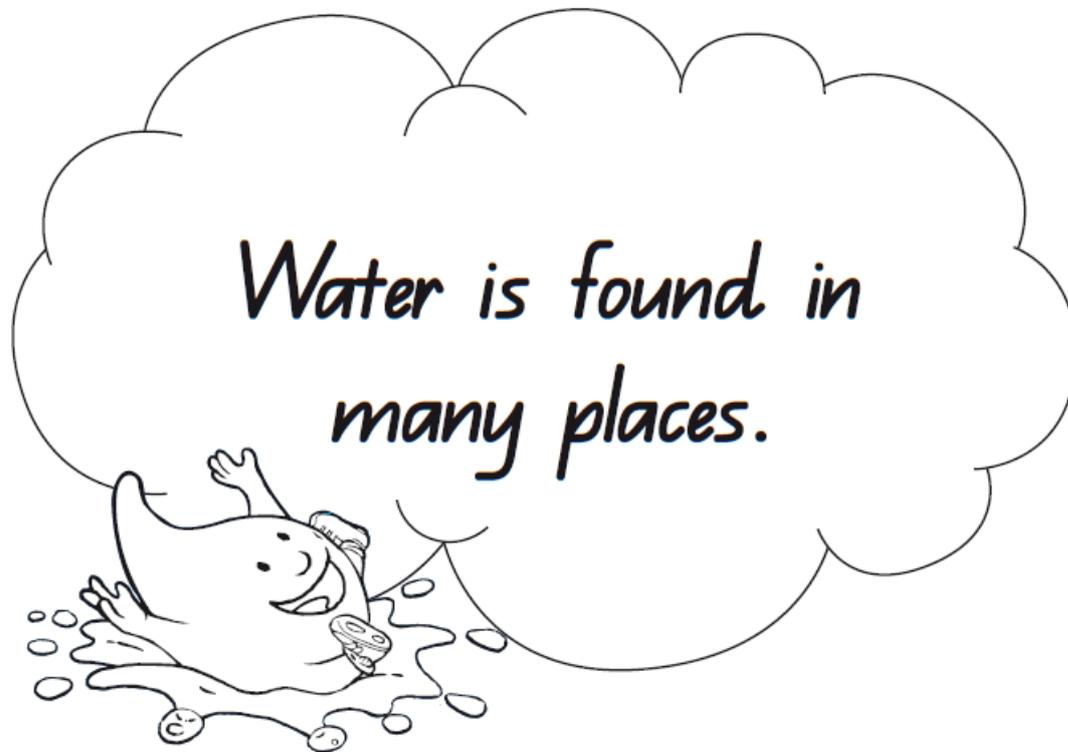
Workstation 2: Most plants suck water up from the ground through tiny tubes in their stems and roots. The colour in the water shows that water moves to various parts (tissues) in the plant.

Workstation 3: More than half of the human body is water. Water is essential for humans to survive. Evidence of water in the human body is the water vapour in our breath. Students exhale onto the mirror to see the water droplets from the breath.

Workstation 4: Many foods need to be cooked in water. Heated water cooks the food, changing it so humans are better able to digest the food.

Resource 1 How water is used

Looking at leaves (Workstation 1)



Materials

- plant leaves, magnifying glass, scissors

Steps

1. Feel, smell, and look at the leaves as you explore them. Remember, do not put them near your mouth.
2. Look at the leaves using a magnifying glass.
3. Think about how the leaves are the same and how they are different. Compare their thickness, shape and texture.
4. Squeeze the leaves and see what happens. Draw a labelled picture of what you observed.
5. Cut some leaves, look inside them.

Resource 1 continued

How plants drink (Workstation 2)

Materials

- coloured celery with leaves, plain celery with leaves, magnifying glass, drinking straws

Steps

1. Look at the two different sets of celery.
2. How are they different? Draw a labelled picture of the different celery.
3. The coloured celery has been sitting in coloured water. How did the colour get to the leaves? Write your answer on the worksheet.
4. How is celery like a drinking straw?
5. Draw a labelled picture showing how water moves in a drinking straw and how water moves in the celery.

Water in me (Workstation 3)

Materials

- mirrors

Steps

1. Breathe onto a mirror. What do you see on the mirror?
2. Does something like this happen to the bathroom mirror when you have a shower? Or to the windscreen and windows inside a car?
3. Read this:

Did you know that water is more important to your survival than food? You can live for weeks without food but you can live for only a few days without water.

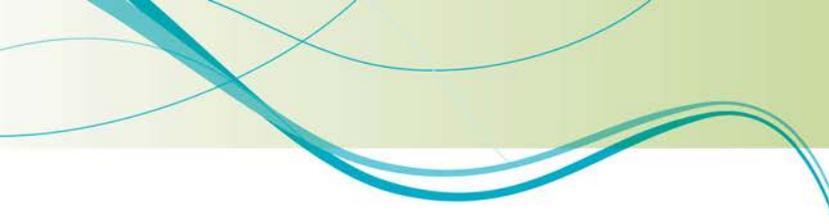
In hot places, you can survive for only a very short time without water. This is because you lose more water when it is hot. You lose water when you go to the toilet, by breathing it out, and by sweating.

That is why you need to drink at least six cups of water a day to replace the water that is lost. And, of course, you need to drink even more water when it is hot!

More than half of your body is water. The water travels around your body but it is also found in your bones and in the cells that make up your body.

Draw a circle around the right answer.

- | | |
|---------------------------------------|-----------|
| 1. Your body is mostly water. | Yes or No |
| 2. Without water you would die. | Yes or No |
| 3. Food is more important than water. | Yes or No |
| 4. We breathe out some water vapour. | Yes or No |
| 5. Our bones are made of ice. | Yes or No |



Resource 1 continued

Just add water (Workstation 4)

Materials

Samples of uncooked food with their names on a post-it or card

Steps

1. Look at the food. Can you eat it as it is?
2. What would we do to this food to make it better to eat?
3. Draw on this worksheet, labelled pictures of the food before the food is cooked and after it is cooked in water.