



## WATER CONSERVATION

# Water is Important

Lesson time: 45 minutes + optional activities

## Outcomes

By the end of this lesson, students will understand that:

- water is vital in our lives
- water is a resource that is valuable and scarce
- we need to use water wisely and conserve it where possible.

## Materials

### Lesson

- 1-litre jug

### Experiment

- Large container or tub to fit in sink
- Timer
- Measuring jug

### Game

- Die
- Scissors

## Vocabulary

appliance

average

conserve

consumers

consumption

evaporate

efficiency

estimate

rating



## Victorian Curriculum

### SCIENCE

VCSSU056, VCSIS065, VCSIS066,  
VCSIS067, VCSIS068, VCSIS069,  
VCSIS070, VCSIS071, VCSIS072

## Presentation Slides

**1**

Washing machines, dishwashers, toilets, taps and showerheads all have a water efficiency label. This tells us how well items use water (how 'efficient' they are), and how much water they will use.

Watch the video 'How to read the WELS label' to learn more! [watering.gov.au/choose/water-rating-label](http://watering.gov.au/choose/water-rating-label)

More stars mean better water efficiency!



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### How to read a WELS label

Water-rating labels advise consumers about the water efficiency of products.

Information on the labels includes:

- the star rating – the more stars, the better the water efficiency
- the rate of water consumption (such as flow rate, litres per flush or litres per wash), which lets you estimate how much water the product will use
- registration and product details.

The short (1 minute) video explains how to read a WELS label.

**2**

Which appliances in your home have a WELS label?

The WELS scheme helps us to make water-smart decisions before we buy appliances that use water.

WELS is a short way of saying: Water Efficiency Labelling and Standards



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### Which appliances in your home have a WELS label?

Ask students to think about appliances in their home. Brainstorm as a class. Answers could include:

- taps
- showerheads
- washing machines
- dishwashers
- toilets
- garden irrigation systems.

Then talk about buying appliances and making purchasing decisions.

- Have they been to a store and seen these labels?
- Do they know if their parents or carers have considered this information when they have bought appliances?
- Are water-efficient appliances more expensive?

**3** Compare the WELS labels from each washing machine. How much water could you save per wash?

The Saver family does five loads of washing per week. Multiply your answer by five to find out how much water they can save in a week.

**How much water could you save per wash?**

This question starts students thinking about comparing appliances in terms of water use.

By using the front-loader instead of the top-loader, you could save  $132 - 64 = 68$  litres per wash.

The Saver family would save  $68 \times 5 = 340$  litres per week.

**4** Work in small groups to estimate how many litres of water are used for each item.

Container/activity	Volume of water (litres)
Bucket	
Brushing teeth with a tap running for 2 minutes	
Kitchen sink	
Dishwasher	
Bath - full	
Toilet flush - half flush	
Toilet flush - full flush	
Toilet flush - non-dual-flush toilet	
Shower - 3 minutes with water-saving showerhead	
Shower - 3 minutes with non-water-saving showerhead	
Shower - 10 minutes with water-saving showerhead	
Dripping tap for a week	
Dripping tap for a year	
Watering the garden by hose for 10 minutes	

**Work in small groups to estimate how many litres of water are used for each item.**

**Watch-Wonder-Write**

Show students a 1-litre container. In groups, students guess how much water (in litres) might be used by the items in the table.

The following slide shows the average volumes of water used.

The table below gives you the answers. These numbers are averages.

Container/activity	Volume of water (litres)
Bucket	9
Brushing teeth with a tap running for 2 minutes	10
Kitchen sink	15-18
Dishwasher	20
Bath - full	120
Toilet flush - half flush	3
Toilet flush - full flush	6
Toilet flush - non-dual-flush toilet	11
Shower - 3 minutes with water-saving showerhead	27
Shower - 3 minutes with non-water-saving showerhead	54
Shower - 10 minutes with water-saving showerhead	90
Dripping tap for a week	100
Dripping tap for a year	5000-10 000
Watering the garden by hose for 10 minutes	200

How accurate were your answers?

Discuss the answers with the class, and talk about other ways to save water. For example:

- Don't rinse dishes under a running tap. If you have two sinks, fill the second one with rinsing water. If you have only one sink, stack washed dishes in a dish rack and rinse them with a pan of hot water.
- Use a front-loader washing machine with a high star rating.
- Install a water tank to collect rain water.
- Use mulch on garden beds to reduce evaporation.

**Note: It is important to emphasise that it is okay to use water (e.g. we need to drink water to stay hydrated and healthy; we need to wash ourselves and our clothes), but it is not okay to waste water.**

Ask the class to discuss the difference between using water wisely and wasting water. For example:

- leaving the tap running while brushing your teeth wastes water, but turning the tap off and using a glass of water to rinse with is a wise use of water
- having a long shower wastes water - a short one will get you just as clean!

**Extension activity 1**

Use the data collected and discuss with students how they could display the recorded data as a column graph.

**Extension activity 2**

Reinforce the importance of conserving water. Read the beginning of the online book *Whizzy's Incredible Journeys\** with students and continue on with the 'family journey' when asked to choose a path.

\*resources.qld.gov.au/\_data/assets/pdf\_file/0006/1407642/whizzys-incredible-journey.pdf

## Student Worksheet

**1** Suggested answers include:

- taps
- toilets
- showerheads
- washing machines
- dishwashers.

**2** Answers will vary, but could include:

- when brushing your teeth, use a glass of water to rinse, instead of leaving the tap running
- keep your shower to less than 3 minutes
- only use the dishwasher when it is full
- sweep paved areas instead of hosing them with water
- using a water-efficient hose nozzle
- use drip irrigation to water the garden.

**3 Experiment:** Supervise students to do the experiment. When finished, discuss the results as a class by asking the following questions.

- Do you see any patterns in the results?
- Is this a fair test?
- What do you think makes a fair test?
- Is there anything that doesn't make this a fair test?
- What went well in the experiment?
- What was difficult?
- Do you have a suggestion for a different way to do the experiment?

**4 Taking it further:** Discuss with students other ways to present their ideas using a graphic organiser.

**5 Family Water Detective**

### Take-home activity

Students put their learning into practice at home, seeing first-hand how their actions affect their daily water use.

It is important to emphasise to students that we need water for health and hygiene. It is vital! But water is scarce, so what can we do every day to use water wisely?

## Game



Students can play the game in small groups or in teams.

