# BE SMART CHOOSE TAP

an education resource
for primary schools

## YEARS 3–4

CENTRAL HIGHLANDS WATER

BE SMART CHOOSE TAP

# BE SMART CHOOSE TAP

## Lesson Plan

Drinking tap water is a positive alternative to bottled water. More than a billion people worldwide do not have access to safe drinking water but sometimes in Australia we take our quality tap water for granted. Choosing tap is better for your health, the environment and is much less expensive. In the Central Highlands region, we are committed to providing the highest quality water to our customers.

These activities use hands-on and digital technologies to explore water in our bodies, water in everyday products, water in the environment and water around the world.

Students gain an understanding of some of the current priorities and challenges facing the Central Highlands region and people around the world. Students can look towards the future to tackle issues like climate change (including floods and droughts), population growth and differing opinions on how our water resources should be managed.

# Victorian Curriculum F–10[1] links

## YEARS 3–4

### Science

Science knowledge helps people to understand the effects of their actions (VCSSU056)

### Geography

Types of natural vegetation and the significance of vegetation to the environment, the importance of environments to animals and people, and different views on how they can be protected; the use and management of natural resources and waste, and different views on how to do this sustainably (VCGGK082)

Similarities and differences between places in terms of their type of settlement, demographic characteristics and the lives of the people who live there (VCGGK084)

### Health and physical education

Describe strategies to make the classroom and playground healthy, safe and active spaces (VCHPEP095)

### Mathematics

Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies (VCMSP149)

Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values (VCMSP179)

### Digital technologies

Collect, access and present different types of data using simple software to create information and solve problems (VCDTDI021)

[1] Victorian Curriculum and Assessment Authority <http://victoriancurriculum.vcaa.vic.edu.au/ > (VCAA) Accessed 25 October 2017.

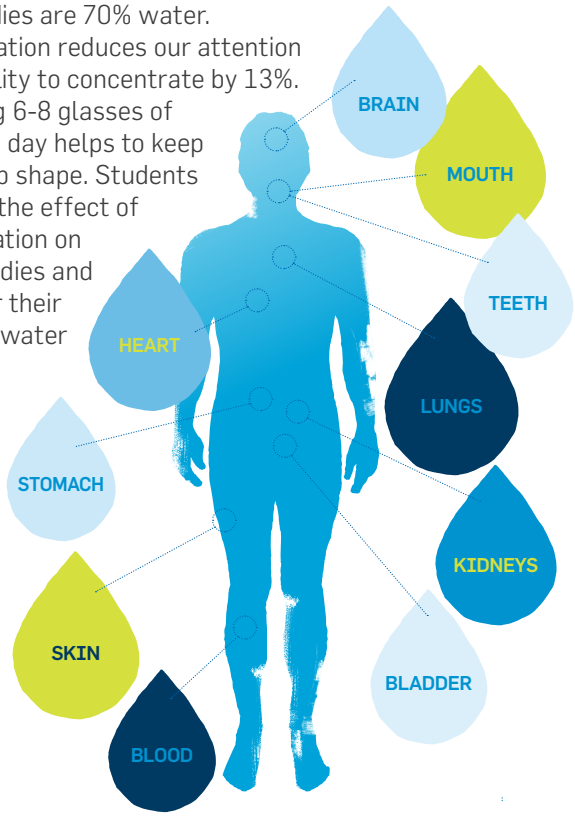
# CONTENTS




TAP

# ACTIVITY 1:
# WATER IN YOUR BODY

Our bodies are 70% water. Dehydration reduces our attention and ability to concentrate by 13%. Drinking 6-8 glasses of water a day helps to keep us in top shape. Students look at the effect of dehydration on their bodies and monitor their weekly water intake.




Please refer to Teacher Background Information p. 14 or the *Stay healthy Stay hydrated* poster for the benefits of water on your body.

## Equipment

**Fountains and Drains board game** (Large version available to borrow. Small version available free from Central Highlands Water or as pdf for printing. See Resources)

**Stay healthy Stay hydrated poster** (see Resources)

**Wee chart poster** (see Resources)

**Drinking water weekly chart** (attached)

**Body parts cards** (attached)

**Counters**

**Dice**

**Thumb tack or Blu Tack**

**Video**
ASAP Science *What if you stopped drinking water?* (2014)
https://www.youtube.com/watch?v=zCheAcpFkL8

**Website**
Australian Guide to Healthy Eating chart
https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating

## Preparation

Borrow the large version of the *Fountains and Drains* board game from Central Highlands Water or print the small version on A3 sized paper. Laminate for future use.

There are 14 different *Body parts cards*. Print and cut enough for one for each student. There may be double ups.

Print the *Drinking water weekly chart* in A3 size and fill in student names. You could store the chart in a plastic pocket or print it on thick card to ensure it lasts a week.

Set up video and website.

## Activity steps

### FOUNTAINS AND DRAINS

1. Play the *Fountains and Drains* board game (large version or small version). The large version can be played with students as the 'pieces'. The small version can be played with counters. Students roll the dice and move along the board until they reach the finish drop. This gives students a good overview of water in their bodies and also bottled water (Activity 2: Choose tap).

### HYDRATE

2. Ask students how many glasses of water they drink a day. Graph their answers on the whiteboard. Also introduce the *Wee chart*. The sticker (see Resources) can be placed on the back of toilet doors so students can monitor their own wee to see if they're drinking enough water.
3. Display the *Australian Guide to Healthy Eating* chart. Point out or ask students to find the line that says 'Drink plenty of water'.
4. Explain that you will be charting students' water consumption over the next week. The *Drinking water weekly chart* can be used to monitor whether students have filled up their drink bottle with water at least once a day. When they fill up, they can initial next to their name under the day of the week.

# ACTIVITY 1:
# DRINKING WATER WEEKLY CHART

| **Student name** | Monday | Tuesday | Wednesday | Thursday | Friday |
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CENTRAL HIGHLANDS WATER

BE SMART CHOOSE TAP

## OUR BODIES NEED WATER

5. Watch the AsapSCIENCE video:
   *What if you stopped drinking water?* [3:31]
   https://www.youtube.com/watch?v=zCheAcpFkL8
6. Using the *Stay healthy Stay hydrated* poster, discuss the need to drink water every day. Why? What is the benefit to our bodies? What happens if we don't drink enough water? Point out or ask students to come up and read the information in each drop.
7. Place the *Body parts cards* in a bucket or jar.
8. Ask students to take a card from the bucket or jar.
9. Ask students to form pairs/small groups with others who have selected the same card.
10. In small groups, ask students to discuss what our body parts do. For example:

    **Brain:** thinks and tells your body what to do
    **Mouth:** talks, eats
    **Teeth:** chew
    **Lungs:** breathe
    **Kidneys:** gets rid of waste
    **Bladder:** stores urine
    **Blood:** carries oxygen and nutrients around the body
    **Skin:** protects what's underneath
    **Stomach:** digests food and drink
    **Heart:** pumps blood
    **Eyes:** see
    **Intestine:** absorbs nutrients and water
    **Liver:** removes toxins
    **Bones:** support and protect organs

11. As a class, discuss what each body part does. Record answers on the whiteboard. You could add to the *Stay healthy Stay hydrated* poster.

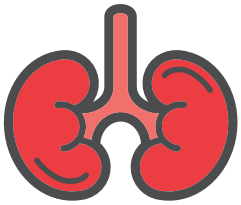
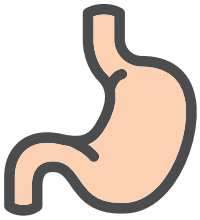
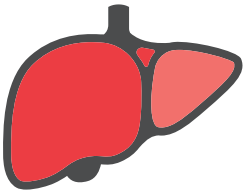
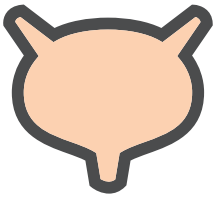
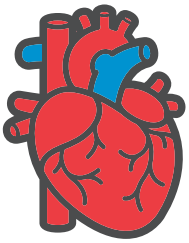
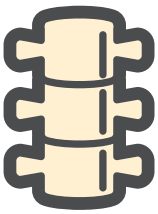
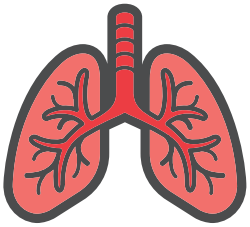
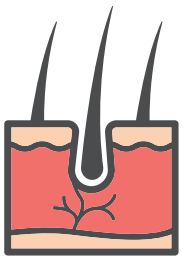
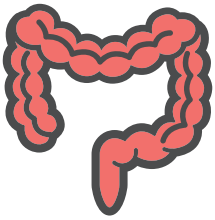
## HEALTHY AND HYDRATED

12. Using the *Stay healthy Stay hydrated* poster, students pin or blu-tack their body part card on the poster to indicate where on the body it is.

# Extension activity

Students research how and where people lose water in their bodies (e.g. through breathing, exercising, sweating).

# ACTIVITY 1:
# BODY PARTS CARDS

| | | |
|---|---|---|
| Brain  | Kidneys  | Stomach  |
| Liver  | Mouth  | Bladder  |
| Heart  | Bones  | Teeth  |
| Blood  | Eyes  | Lungs  |
| Skin  | Intestine  | |

# ACTIVITY 2:
# CHOOSE TAP

Bottled water creates waste, is expensive and a big problem for the environment. Students investigate plastic bottles as a large portion of landfill. An audit of the school yard or local area can be used to validate the data.

## Equipment

**Supermarket catalogues**

**Rubbish bags**

**Gloves**

**Tongs**

**Video**
Story of Stuff Project *The Story of Bottled Water* (2010)
https://www.youtube.com/watch?v=Se12y9hSOM0

**Website**
Central Highlands Water fees and charges
http://www.chw.net.au/residents/fees-and-charges

## Preparation

Set up video and website.

Students will need a rubbish bag, set of tongs and pair of gloves each.

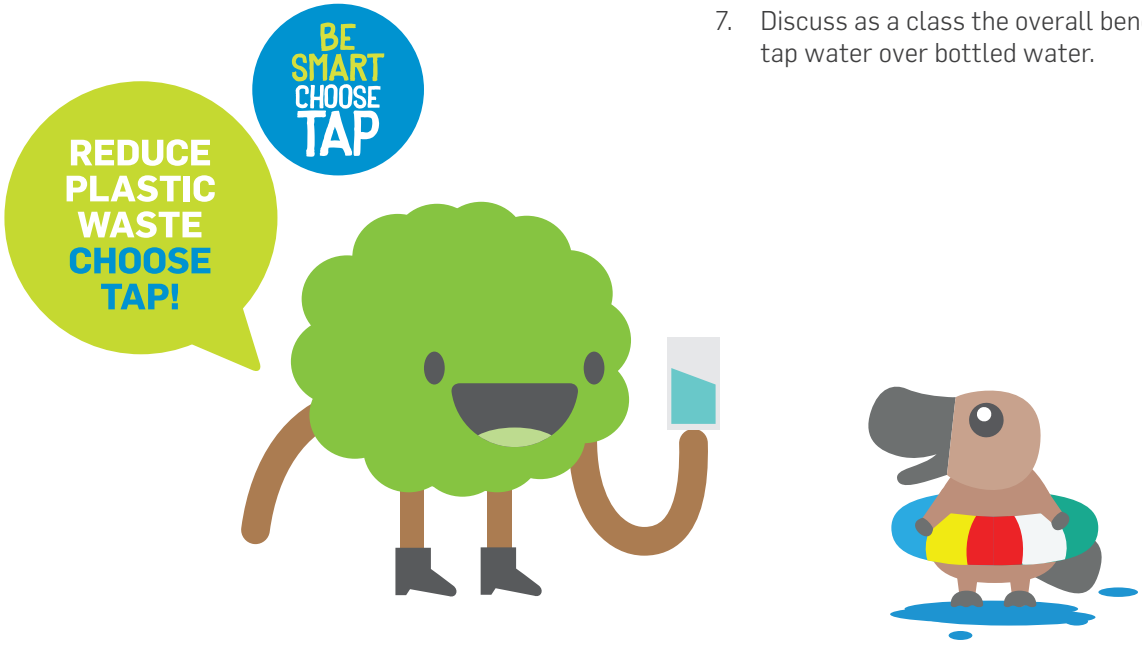
## Activity steps

### PLASTIC BOTTLES

1. Ask students to list or discuss the things they drink, use or buy that comes in plastic bottles.
2. Watch the Story of Stuff Project's video: *The Story of Bottled Water* [8:05] https://www.youtube.com/watch?v=Se12y9hSOM0
3. Discuss the issues raised in the video. Why do people continue to buy bottled water? What can we do about this?

### PRICE

4. Students research (on the internet or in supermarket catalogues) the price of some major brands of bottled water. (The average price in 2018 in Victoria is $2.80 per litre.)
5. As a class, research the current price of tap water in our region on the Central Highlands Water website. (Tap water in our region in 2018 is $1.85 for 1000 litres.)
6. Discuss how much water 1000 litres is in terms of what it would fill (100 x 10 litre buckets, 5-6 x bathtubs etc.). The price of one litre of tap water is $0.00185. A 10 litre bucket would cost under 2 cents to fill. It would cost less than 30 cents to fill a bath.
7. Discuss as a class the overall benefits of choosing tap water over bottled water.



## RUBBISH AUDIT

8. Students audit plastic bottle waste within the school yard or a local creek or river by collecting rubbish. Before you begin, equip each student with gloves, a plastic bag and tongs. Specify the type of rubbish you'd like collected (plastic bottles, paper, plastic bags etc.). Ask students not to collect:
    - sharp objects
    - unknown objects
    - unsanitary objects
9. Once completed, as a group, separate the rubbish into different categories.
10. Separate plastic bottles from the other plastic.
11. Students note how many pieces of rubbish are in each category.
12. This information can be used to create a graph. This can be done by:
    - placing the rubbish into lines or in a pie chart on concrete and drawing chalk around the outline
    - drawing a graph on paper
    - plotting a graph with Microsoft Excel and colour coding the categories.
13. Discuss with students the number of plastic bottles compared to other categories of rubbish.
14. Discuss solutions to the litter problem:
    - Recycling signage
    - Using appropriate bins
    - Lids on bins
    - Nude food
    - Compost bins
    - Choose tap water over bottled water

# Extension activity

Students develop a multimedia presentation about the benefits of tap water over bottled water.

# **ACTIVITY 3:** WATER AND HEALTH AROUND THE WORLD

In the Central Highlands region, we have access to some of the best quality drinking water in the world. Not everyone has this service. Over 650 million people live without access to safe drinking water. Students investigate ways that people in all countries can gain access to clean, safe water.

## Equipment

**Buckets / plastic bottles / closed lid containers**

**Video**
WaterAid *Simple solutions – schools version* (2013)
https://www.youtube.com/watch?v=_oeWR6uZ87s&feature=youtu.be

**Website**
WaterAid map *Where we work*
http://www.wateraid.org/au/where-we-work

## Preparation

Set up video and website.

Collect plastic bottles.

## Activity steps

### WATERAID

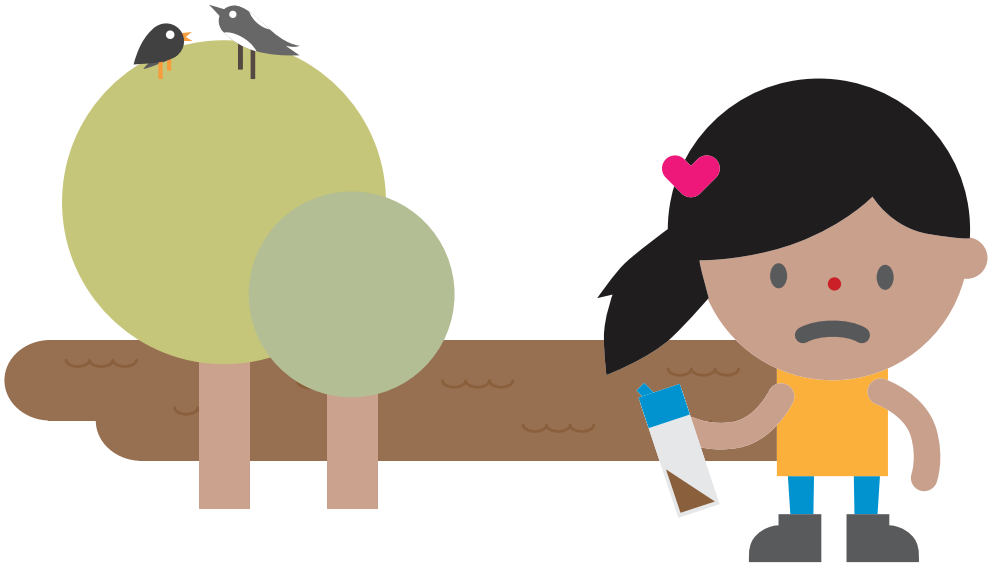
1. Watch the WaterAid video:
   *Simple solutions – schools version* [2:19]
   https://www.youtube.com/watch?v=_oeWR6uZ87s&feature=youtu.be
2. Discuss with students the differences in access to water in countries around the world.

### BUCKET CARRYING CHALLENGE

3. Quarter fill a bucket with water (approximately 2 litres) or fill a 2 litre plastic bottle or closed lid container with water.
4. Students form a line and pass the bucket along the line without spilling a drop. Alternatively, students walk in a relay race around the oval or school yard with a bucket, a plastic bottle or a closed lid container to experience what it's like for people to carry water a long distance.

### COUNTRIES AROUND THE WORLD

5. As a class, discuss which countries students think may not have access to clean and safe drinking water. Why?
6. Show the WaterAid map *Where we work*.
7. Discuss the countries WaterAid supports. Why do people in these countries need help?



## SOLUTIONS

8. As a group, discuss some solutions to the problems of access to clean and safe drinking water and adequate toilets.
9. Students use their ideas and information from the video to create a solution in the form of a story, multimedia presentation, movie, song, poster or role play about access to clean and safe drinking water and adequate toilets.

# Extension activity

Students set up their own fundraising program for WaterAid or a similar organisation.

# TEACHER
# BACKGROUND INFORMATION

## Key messages

The key messages for students are:

- We all need to drink water to stay healthy and hydrated.
- Tap water is a positive alternative to bottled water. It is good for your health, better for the environment and much less expensive.
- Some people in the world don't have access to safe, clean drinking water. We can help.

## Water for our bodies

Water forms the basis of blood, digestive juices, urine and perspiration, and is contained in lean muscle, fat and bones.

### HEART

Dehydration can have a negative impact on the mechanical function of your heart.

### STOMACH

Water is a vital component for any healthy diet.

### SKIN

Water acts as a moisturiser for your skin and helps with the fluid regulation of your whole body.

### BLOOD

Your blood is around 90% water and carries oxygen and nutrients around the body.

### BRAIN

Your brain is around 80% water and plays a vital role in your body's response to dehydration. Dehydration reduces your attention and ability to concentrate.

### MOUTH

Thirst is a good measure of your hydration status. By the time you feel thirsty your body has lost between two and five cups of water.

### TEETH

Fluoride in tap water helps reduce the effect of acid in food and drink that can cause tooth decay.

### LUNGS

Your body loses water every time you breathe. Every day you lose the equivalent of one cup of water just through breathing.

### KIDNEYS

Water helps the kidneys eliminate toxic waste, regulate blood composition, mineral and ion levels.

### BLADDER

Drinking plenty of water helps reduce the risk of bladder infections and kidney stones.

# Choose tap

## HEALTH

The human body is 70% water. Our body relies on fresh supplies every day so it can function properly and stay healthy.

## COST

Each year Australians spend over $500 million on bottled water, a product that costs 2000 times more per litre than tap water. With the $3 (sometimes more!) spent on a one litre bottle of water, you can refill a one litre drink bottle from the tap every day for two years.

## ENVIRONMENT

Many plastic bottles end up in landfill or in the environment.

In 2014-15, the total consumption of PET plastics in Australia was 103,400 tonnes. Of this, 36,000 tonnes (34.8%) was recycled domestically and another 47,500 tonnes (45.9%) was exported to other countries for recycling. The rest of these bottles, 19,900 tonnes (19.3%), either end up in landfill, or in our environment.


# Access to water around the world

In the Central Highlands region, we have access some of the best quality drinking water in the world and it is delivered to us via pipes, plumbing and taps.

Not everyone has this service. Over 650 million people live without access to safe drinking water. Without this basic service, they have no choice but to drink dirty water. In many countries around the world, taps, wells and pipes simply don't exist or may not be affordable to the poorest people. Women and girls suffer the most. They are forced to walk long distances to collect dirty water which may make them sick with water-related diseases.

Another issue is access to an adequate toilet which is something many of us take for granted. 2.4 billion people worldwide don't have access to adequate sanitation. Many are forced to go in the open, spreading deadly diseases. Almost 900 children per day die from diarrhoeal diseases caused by dirty water and poor sanitation.

WaterAid Australia is a member of WaterAid, a non-government organisation whose mission is to transform the lives of the poorest and most marginalised people by improving access to safe water, sanitation and hygiene. Central Highlands Water supports WaterAid's work by raising money through internal and external programs.

# Useful links and references


ABC Behind the News *Bottled Water* (2008)
http://www.abc.net.au/btn/story/s2402275.htm

AsapSCIENCE *What if you stopped drinking water?* (2014)
https://www.youtube.com/watch?v=zCheAcpFkL8

Australian Guide to Healthy Eating chart
https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating

Australian Packaging Covenant (2015), Recycling Data Report 2014-15: Plastics, report prepared by Sustainable Resource Use, Melbourne.
http://www.packagingcovenant.org.au/

Better Health Channel – sugary drinks know the facts
https://www.youtube.com/user/betterhealthchannel

Central Highlands Water
www.chw.net.au

Central Highlands Water fees and charges
http://www.chw.net.au/residents/fees-and-charges

Choose Tap
http://choosetap.com.au/

Story of Stuff Project *The Story of Bottled Water* (2010)
https://www.youtube.com/watch?v=Se12y9hSOM0

Universal Health Care *The importance of drinking water* (2012)
https://www.youtube.com/watch?v=QrzRJM88Okg

Victorian Curriculum and Assessment Authority
http://victoriancurriculum.vcaa.vic.edu.au/

WaterAid Australia
www.wateraid.org/au

WaterAid *Everyone, Everywhere 2030: Grace's story* (2015)
https://www.youtube.com/watch?v=wF_HlgnWEwU

WaterAid *It starts with water* (2013)
https://www.youtube.com/watch?v=mOJscvMtAYY

WaterAid map *Where we work*
http://www.wateraid.org/au/where-we-work

WaterAid *Simple Solutions - schools version* (2013)
https://www.youtube.com/watch?v=GBlBbC-kcuc

WaterAid *Water Walk* (2014)
https://www.youtube.com/watch?v=4V-KoJGGJ4s

WaterAid *We are WaterAid – schools version* (2013)
https://www.youtube.com/watch?v=eudZdeUn5rA

Water footprint calculator
http://waterfootprint.org/en/resources/interactive-tools/personal-water-footprint-calculator/

Water Footprint Network
http://waterfootprint.org/en/

Water – learn it. live it. (2013)
*Volume 3: Water in the Community*
https://www.yvw.com.au/about-us/teaching-resources/teaching-materials


# Resources

Please contact the Central Highlands Water Education Officer for the following free resources:

- Stay healthy Stay hydrated poster
- How water keeps you healthy poster
- Wee chart poster
- Wee chart stickers (for the back of the toilet door)
- Choose Tap stickers
- Choose Tap magnetic puzzle

The following resources are available free to borrow from Central Highlands Water:

- Fountains and Drains board game (large version)
- How water keeps you healthy puzzle (large version)
- Choose Tap big book
- Choose Tap book class set
- Human torso with removable parts

Please print the following resources or request them free from Central Highlands Water:

- Stay healthy Stay hydrated fact sheet
- How water keeps you healthy fact sheet
- How water keeps you healthy puzzle (small version)
- Fountains and Drains board game (small version)
- Wee chart
- Tap man colour in sheet

**Central Highlands Water**
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**1800 061 514**

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