Lesson ideas – level 1

Introduction

These lessons focus on recognising the importance of clean water. They also cover how our water is treated and the steps we can take to use it sustainably.

Adult supervision is recommended for all activities.

Learning outcomes

Using this curriculum material will assist students in achieving the following learning outcomes:

■ Students will learn about the various uses and sources of water.

■ Students will learn about the importance of clean water and how it is made clean.

■ Students will learn why it is important to use water wisely.

English

■ As a class, students to consider the question, 'Why water quality is important to me?'. Discuss what 'water quality' is and then ask students to draw and label their reasons for why water quality is important to them. Students to present their ideas to the class or to a partner. Encourage clear speaking with appropriate volume.

■ Students to create a class 'word wall' of new and interesting water-related words in English and local language.

■ Students to find the meaning of each word on the **'Find the meaning'** activity sheet. Depending on the capabilities of your students, the activity sheet could be completed individually, or as a whole class.

■ Students to complete the **'Water acrostic poem'** activity sheet using words that relate to water. Begin the activity by brainstorming some ideas as a class. Teacher to model their own water acrostic poem first.

■ Students to read one of the 'What's in the water?' online books on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Interactives'> 'Online books'), then as a class, record what they have learned on the **'Water mind map'** activity sheet (enlarge sheet to A3 or complete on the board).

■ Water is often referred to as a 'precious' resource. What does the word precious mean? Discuss as a class. Now ask the students to practise using the word in a sentence. Students can use the **'Precious water sentences'** activity sheet to explore the word and how this term applies to water.

- Students to create a water-wise presentation for people visiting their community. Background information can be found on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Using water wisely').

- Students to create a poster to educate members of the community about safe and unsafe drinking water.

- Students to read a water-themed Dreamtime story of their choice (e.g. The Ngurunderi Dreaming, Tiddalik the Frog or The Rainbow Serpent), then complete the **'Dreamtime Story book report'** activity sheet.

- Students to complete the **'Water words word search'** activity sheet.

- Students to complete the **'Wonderful water'** activity sheet to brainstorm some water adjectives.

- Students to view the 'Bore-to-tap water story' animation on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Interactives'> 'Animations'). Students to write down some important key words.

- Students to produce a short story about water and what they use it for. They could present it as a book with painted pictures.

- Students to complete the **'Where does our water come from? Cloze activity'** to discover the missing ground and surface water words.

- Students to complete the **'Comprehension – Using water wisely'** activity sheet.

- Students to complete the **'Water wise words spelling'** activity sheet to find incorrectly spelt words and replace them with the correct spelling.

- Students to complete the **'Water wise jumbled sentences'** activity sheet to unjumble the sentences so that they make sense.

- Students to complete the **'Water wise jigsaw words'** activity to match up the beginning and end of relevant water wise words.

Mathematics

- Students to survey their classmates about how they use water. Using this data, create a class picture graph.

- Students to use a small bucket or a container to collect water from a dripping tap. How long did it take the bucket to fill up? In pairs or small groups, ask students to measure the amount of water in the bucket/container using various sized measuring containers. Record results.

- As a class, students to practise counting up by 10's as an introduction to the activity. You might like to play a game of 'buzz' to reinforce understanding. Students to then calculate how much water is used for everyday activities on the **'Water, water everywhere'** activity sheet.

- Students to create a map of their school and mark on their maps where there is a supply of clean water.

- Students to collect the water they use when they wash their hands. Measure how much they use, then see if they can reduce it. Have a competition between students to see who can use the least amount of water while still washing their hands properly.

- Students to learn the capacity measurement terms millilitres and litres. Collect some everyday items that hold liquid and ask students to identify whether those items might hold millilitres or litres? For example, show a small drinking cup and then a water jug. Which one do they think holds more? Why? Is the drinking cup likely to be measured in millilitres or litres? Students to compare/measure the capacity of other items with a partner and record their findings.

- Students to identify odd and even numbers to solve the **'What is it? Number puzzle'** activity sheet.

- Students to complete the **'Water at any time'** activity sheet to record ways that water is used at different times during the day.

- Students to play the 'Using water wisely board game' on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Interactives'> 'Quizzes and games'). The online board game can be played with 1, 2 or 3 players and it's also provided in printable PDF format. Students could design and construct their own 'Using water wisely' board game to play with a partner.

- Students to collect 5 everyday items that hold liquid. In pairs, students need to arrange these items in order from 'holds the least amount of liquid', to 'holds the most amount of liquid'. Check the order of the items by measuring the amount in each.

- Students to practise solving worded problems to complete the **'Water wise problem solving'** activity sheet.

- Students to practise adding, subtracting, multiplying and dividing by completing the **'How many buckets?'** activity sheet.

- Students to show their understanding of measuring in millilitres by completing the **'How full?'** activity sheet.

- Students to complete the **'Capacity treasure hunt'** activity sheet to find containers that hold similar amounts.

Science

- Students to think about what they know about water, what they would like to know and what they have learnt about water and record it on the **'Water KWL chart'** activity sheet. This activity may be completed individually, or as a whole class depending on the capabilities of your students.

- In pairs, students to undertake their own water quality observations using their sight and smell by completing the **'Water for the senses'** activity sheet.

- As a class, read the information about where our water comes from and how it is made safe to drink, on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Where does our water come from?' 'Safe drinking water'). Students to brainstorm the different impurities that can be found in various water sources and complete the **'What lies beneath?'** activity sheet. This activity is designed to be 'teacher-led' and the activity sheet to be enlarged to A3 size for students to contribute their ideas as a whole class.

- Students to observe water and bugs through microscopes (if available). What can they see? Discuss what types of germs can be found in water.

- Students to learn about why we need water to survive. What else needs water to survive?

- Students to think about the various things that end up in their water (e.g. bugs, dirt, detergent, rocks etc.) They then select some of those items and place them in a cup of clean water. Watch and record what happens to the water. Consider the following:
  - How does the water change?
  - What happens to the texture of the water?
  - What happens to the colour of the water?
  - Does the smell of the water change? How?
  - Does the water look different at the end of the day?

- Introduce students to the water cycle by displaying the 'Water cycle animated diagram' found on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Interactives'> 'Animations'). Discuss the meaning of precipitation, condensation, and evaporation. Students to complete the **'Water cycle puzzle – level 1'** activity sheet.

- Students to discuss why treatment of water is necessary. As a class, discover the different types of water treatment methods. There is some information on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Safe drinking water') or at www.sawater.com.au

- Students to brainstorm ways they use water at home and at school (e.g. drinking, bathing, watering, etc.) They then sort these according to where the water should be sourced from (e.g. a rainwater tank, special tap, normal tap, creek, etc.) Discuss why it is important to know, and understand, where the water you are using is sourced from.

- Students to complete the **'Float or sink?'** activity sheet to conduct some simple experiments to discover materials that float and sink.

Humanities and Social Sciences (History, Geography, Civics and Citizenship, Economics and Business)

- Invite a community elder to speak to the class about how water has been used throughout the years. How was it collected? How was it stored? How did the community ensure that it was safe to drink or use? Is that different from now and if so, how and why?

- Students to consider how water might be wasted in their school. Make a list of the issues and then brainstorm ways this wastage could be reduced or stopped. Perhaps the list and solutions could be given to the school principal or the local council.

- Students to draw a picture or create a list of the ways in which poor water quality can affect the people, fauna and flora in their community.

- Students to complete the **'Water use – do's and don'ts'** activity sheet to draw and match pictures of correct versus incorrect water usage. Students to display these around the school with clear 'do' and 'don't' messages attached.

The Arts (Drama, Dance, Media Arts, Music, Visual Arts)

- Students to create water wise signs to display around the school. They could use the **'Be water wise'** template (enlarged to A3) if they wish.

- Students to investigate how water is symbolised in Indigenous art in their own community and how, and why, this may be different to other communities.

- Students to use paint and crayons to create new illustrations to go with one of the 'Bore-to-tap' online books on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Interactives'> 'Online books'). These should reflect your students' community.

- Students to use art and craft materials to illustrate the water cycle. Display the 'Water cycle animated diagram' found on the KESAB website www.kesab.asn.au ('Schools'> 'Education microsites'> 'Water Let's be sustainable'> 'Interactives'> 'Animations').

- Students to paint a mural that depicts a water source. On one half of the mural, students to create a clean, healthy water source and on the other half, a dirty unhealthy water source. Students to label the two types of water sources and discuss differences.

- Students to decorate the **'Water drop art'** activity sheet. They could use salt and water colours, or tissue paper painting methods to create their colourful designs.

Technologies (Design and Technologies, Digital Technologies)

- Students to look at different types of filters (e.g. cheesecloth, kitchen strainer, rocks, etc.), and decide which type would work best to filter water. They then make, and test their own filters recording what items the various filters collected and what went through.

- Students to design and then construct a 'water run' model (like the 'marble run' game), where water can travel through pipes of various sizes (and/or other available materials) from various heights. Discuss the results.

- Students to use some, or all of the pictures on the **'Water wise community'** sheets to create their own 'Ultimate water wise community'. They should label the features that make their community water-wise.

Health and Physical Education

- Students to discover the effect that water has on our bodies. Why is clean, healthy water important for us?

- Invite a doctor, nurse or other health professional to speak to the class about the importance of hydration and consuming clean water.

- Students to learn about water-borne diseases. What are they? What effects can they have on our bodies?

- Students to discuss the issues that might affect a community's water supply or make it unsafe for human consumption. Consider camels tipping over tanks, people turning tanks into swimming pools, animals bathing in creeks, throwing rubbish into waterholes or creeks, etc.

- Students to make a list of all the things they use water for during a day. As a class, sort these into categories such as hydration, health and recreation.

- Students to explore the use of water in maintaining personal hygiene. This includes hand washing, showering, washing clothes, etc. How can students be water-wise while maintaining health and hygiene?

- Students to participate in a class 'water relay'. Reinforce the message of being 'water-wise' and use the water on the garden after the relay.