**ACTIVITY: Water issues**

**Activity idea**

In this activity, students investigate the issues surrounding water in their local area and relate this knowledge to water issues in other countries.

By the end of this activity, students should be able to:

* carry out research using the internet
* understand some regional and global issues of water supply and demand
* understand how technology is being used to tackle water supply problems.

[Introduction/background notes](#Introduction)

[What you need](#need)

[What to do](#Do)

Student handout: [Water issues in Papua New Guinea](#handout1)

Student handout: [Water issues in Australia](#handout2)

**Introduction/background**

As an introduction to some water issues, you might like your students to explore the [Water Island](http://www.seqwater.com.au/education/water-island-game) online game provided by South East Queensland Water. It puts players in charge of supplying water to a community and involves storing, cleaning, reusing and desalinating water. Much of the game is relevant to issues in New Zealand.

**What you need**

* Access to the internet
* Copies of the student handout [Water issues in Papua New Guinea](#handout1)
* Copies of the student handout [Water issues in Australia](#handout2)

**What to do**

### *Local water issues*

1. Working in groups of four, each member of the group should investigate one of the following questions. (All students studying the same question could work together or in small groups.)
2. What is your local source of water (for example, reservoir, rain, bore etc.)? In rural areas, different students may get their water from different sources.
3. What issues affect the catchment area (for example, farming, factories, residential)?
4. What treatment does your local council use for your water?
5. What could be done in your local area to improve your water quality?
6. Depending on your local council, information may be easy to access on the council website, or you may have to contact the council or councillors.
7. Once the questions have been researched, students return to their original group and report on what they have found out.

### *World water issues*

1. Working in two groups, using the appropriate student handout, half the class will study water issues affecting a third-world country ([Papua New Guinea](#handout1)), and the other half will study water issues affecting a first-world country ([Australia](#handout2)). These two countries are neighbours, yet they have completely different problems with obtaining sufficient clean drinking water.
2. When the research is finished, each group presents their findings to the rest of the class.

**Student handout: Water issues in Papua New Guinea**

Many parts of the world have problems with their supply of freshwater. Papua New Guinea has problems common in many third-world countries.

Use the websites and questions below to research some water problems in Papua New Guinea. You will then present the information to the rest of the class, who will be researching water issues in Australia, a neighbouring first-world country.

* Issues about water and sanitation in Papua New Guinea.  
  [www.oxfam.org.nz/what-we-do/where-we-work/papua-new-guinea/safe-water-and-sanitation](http://www.oxfam.org.nz/what-we-do/where-we-work/papua-new-guinea/safe-water-and-sanitation)
* A first-hand account from a water engineer in Papua New Guinea about the community involvement in constructing water tanks to provide clean water for remote villages.  
  [www.oxfam.org.nz/what-we-do/issues/water-for-survival/where-we-work/oxfam-png-water-engineer-reports-from-the-field](http://www.oxfam.org.nz/what-we-do/issues/water-for-survival/where-we-work/oxfam-png-water-engineer-reports-from-the-field)
* A world map showing who has access to clean water.  
  <http://data.worldbank.org/indicator/SH.H2O.SAFE.ZS?view=map>

***Questions***

* What problem does the third world have with its water?
* How are these problems being addressed?
* How much of the world is affected by the same issues?
* Do you think this problem is going to improve or get worse? Why?
* Does your local area have the same issues? Why/why not?

**Student handout: Water issues in Australia**

Many parts of the world have problems with their supply of freshwater. Australia is a first-world country that has problems affecting the supply of freshwater.

Use the websites and questions below to research some water problems in Australia. You will then present the information to the rest of the class, who will be researching water issues in Papua New Guinea, a neighbouring third-world country.

* This YouTube video has some good information about desalination in Australia.  
  [www.youtube.com/watch?v=LvVI75ebJJY](http://www.youtube.com/watch?v=LvVI75ebJJY)

***Questions***

* What is desalination?
* Why does Australia want to use this technology?
* What are some of the drawbacks of desalination?
* Do you think this problem is going to improve or get worse? Why?
* Does your local area have the same issues? Why/why not?