WEEK EIGHT Water Conservation

This week students will:

1. Calculate the amount of water consumed at home and identify the different water saving devices and technologies used to conserve water.
2. Understand the importance of water saving and what systems, devices and behavior can be used to reduce water consumption.
3. Use real time water data to calculate consumption.
4. Write a diary to monitor their own and their family's water use and come up with suggestions about how they may make savings.

Learning outcomes

Year 3
Mathematics ACMNA057

Digital Technologies ACTDIK007, ACTDIK008

Year 4
Geography ACHGS024, ACHGS027, ACHGS032

Science ACSHE061, ACSHE062

Mathematics ACMSP095, ACMNA081

Digital Technologies ACTDIK007, ACTDIK008

Year 5
Geography ACHGK029, ACHGS034, ACHGSS039

Science ACSHE081, ACSHE217, ACSIS218

Mathematics ACMNA098, ACMNA100, ACMSP118, ACMNA291

Year 6
Science ACSHE098, ACSHE220, ACSIS221

Mathematics ACMNA123, ACMSP144, ACMNA148

The Game

Habitat the Game rewards players who decrease their use of water. There are many ways to save water including cutting use, recycling and reuse. Water is an extremely precious resource. Of all the water in the world, 97% is salt water and only 3% is fresh water. Of this 3%, a tiny amount (less 0.01%) is available for human use. The rest is frozen in glaciers or polar ice caps, or is deep within the earth, beyond our reach. To put it another way, if 100 litres represents the world's water, about half a tablespoon of it is fresh water available for our use.

When thinking about water conservation, recycling and reuse there are a number of things you can do to save water:

1. Get a water tank for your home or school:
   The water is used for toilet flushing, garden and nursery irrigation and general washing-down.
2. Use water saving devices:
   Such as tap aerators, dual flush toilets and water saving appliances eg dishwasher. The bathrooms with a 4 star WELS rated toilets use only 3.5L water per flush compared with 12L for a traditional toilet, and 6 star WELS rated taps, using only 4.5L water per minute compared to a normal tap using up to 18L per minute.

Activities:

1. Household water:
   a. This activity requires students to list all of the water outlets in their house. What are the ways in which your household consumes water? How many are already water saving devices? Does the house have a rain tank? Do you wait until the dishwasher is full before you turn it on?
   b. Students are encouraged to think not only about systems and devices but also consider water use behaviors and their impact on water consumption. For example, waiting until the dishwasher is full before use or hand washing if there are only a couple of items.
   c. Estimate how much water you currently use around the house.
   d. Then identify the ways in which you could save water. Now recalculate the water use imagining all your water saving suggestions were put to use.
2. Measuring your water consumption/ footprint. Open the Habitat the Game. Go to the real world actions section. Chose some of the water saving actions you have completed today. Measure via your profile page how much water you save completing these actions. How much would you save if your whole class completed the action? What is this the equivalent of? A bucket? A swimming pool?

APPENDIX 1 — Content support notes

Week 8 - Water Conservation, recycling and reuse

Only about three percent of the world's water is available for drinking. As the world's population increases, more and more people need this natural resource. However, like all natural resources, there is not an infinite supply of water.

Most people drink at least one glass of water every day. On a daily basis, millions of people turn on faucets at work and at home filling their glasses or bottles with water. People also take showers or baths, wash their clothes, turn on their garden sprinklers, and use water in dozens of other ways. Not surprisingly, most people don't think about where their water comes from or how it arrived there.

In order to convey to students the importance of water, it helps if they have some background on where water comes from and how it becomes the drinking water that pours out of a faucet.

Water pollution is another critical topic to include in an instruction unit on water.

Reference : http://www.seametrics.com/water-lesson-plans