Water: Background information

The amount of water (in its various forms – vapour, liquid and ice) on the earth does not change over time and only 2% is available for human consumption. As the population grows and technology expands more of this limited resource is used, e.g. for drinking, cleaning, and in schools more water is used per pupil than any other basic resource. It is therefore important that we do not waste the water we have.

Leaking taps is common problem and the cause is usually due to a worn out washer that can easily be replaced. A dripping tap can waste enough water for a 5 minute shower each day.

National Curriculum overview

The activities make good maths / numeracy projects.

Research links and project Ideas

- Local and national newspapers can be collected and researched for articles on water use and abuse
- Research ideas on other ways of conserving water (e.g. toilet hippos and self stopping taps).

Useful contacts

'Are you doing your bit?' campaign
www.doing yourbit.org.uk

Environment Agency
www.environment-agency.gov.uk

Eco Schools
www.eco-schools.org

Global Action Plan (UK)
www.globalactionplan.org.uk

Water in Schools a resource for Key Stage 2 and 3 pupils
www.waterintheschool.co.uk

GLOBE Water Activities

Activity 1. Dripping Water Wasted

The aim of this activity is to calculate the amount of water dripping from the taps within the school by timing the number of drips over a period of one minute. Pupils are instructed to repeat this twice. They then average the three readings.

Preparation: Check the taps in the school building and note which ones are dripping when turned off.
Assign a number and location code for each one.

The activity:

1. The children can work on a tap each or in groups.
2. They will watch the tap for a minute and count and record the number of drips in that minute.
3. They then need to repeat part 2 twice more so they have 3 minute long samples to work with.
4. They will then average the readings and should enter the results onto the GLOBE Sustainable Development database.

Follow up: Work out how much water is being wasted in the school per minute, hour, each day and even over a year?

1 drip ¼ millilitre (0.25ml)
4,000 drips = 1 litre

Repeat this activity after 6 months to see if there has been an improvement
Discuss the advantage of taking three readings.

National Curriculum

Science

Key Stage 3	Sc2.5a	how living things and the environment can be protected, importance of sustainable development

Mathematics

Key Stage 2	Ma 2.2h	understand and use decimal notation for tenths and hundredths
	Ma 2.3l	multiply and divide
	Ma 3.4a	Know 1000ml = 1L
Key Stage 3	Ma2.1c	select effective techniques for numerical calculations.
	Ma2.3a	multiply any number
	Ma4.1a	solve a problem using handling data techniques

GLOBE Water Activities

Activity 2. How much do you use?

Pupils keep a record of the water they use throughout a day

Preparation: Copy data collection sheets for each member of the class.
Measuring containers

The activity:

1. Discuss and agree upon the occasions in the day when water is used – add any new options to the data sheet.
2. Encourage pupils to be honest and realistic – don't change habits – as they fill in the results for the day
3. They will then enter the results onto the GLOBE Sustainable Development database.

Follow up: Discuss steps that individuals can take to reduce water consumption.
Find out why we should be careful about wasting water.
Make a display to show the water cycle.

National Curriculum

Science

Key Stage 3	2.5a	how living things and the environment can be protected, importance of sustainable development

Mathematics

Key Stage 2	3.4a	choose suitable units for capacity and use them to make sensible estimates in everyday situations.
	3.4b	choose and use suitable measuring instruments for a task
Key Stage 3	3.4a	make sensible estimates of a range of measures