National School Grounds Week

Waste not, want not – conserving water

We can't take water for granted. While summer droughts are becoming the norm our demand for water continues to increase. Looking at ways of conserving water will not only help your school grounds become more self sufficient, but also encourage children to understand the value of water – and at the same time support curriculum subjects such as science and design and technology.

The activities you will find here include:

A bottle a day
Waterwise planting
Mulching matters
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Double use of water
No ifs, no butts?
Looking for leaks
A clean sweep
Waterwise watering

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Watering tips

Watering your outside areas is very important, particularly during the summer months and long dry periods. Unfortunately, these periods occasionally coincide with water shortages and hosepipe bans.

- Use 'grey water' wherever possible – old washing up water, water from a shower or bath and water used for washing a car (although avoid using this water on any fruit or vegetable-bearing plants).
- Water early in the morning or in the evening to reduce the amount of water being evaporated.
- Use mulch on the ground – particularly around trees and plants requiring lots of water – as this keeps water from evaporating.
- Rather than watering little and often give plants a good soak less frequently.

A bottle a day...

How much clean water do we waste everyday? Get everyone in the school to bring in a bottle of clean water that would otherwise have gone to waste. When, for example, you wash up, do you run the tap first to get the water hot enough to clean the plates? When you get into a shower do you get in straight away or do you wait for the water to warm up before stepping underneath? If you wait then why not put a bowl in the sink or a bucket in your shower first and catch the cold water before it gets to the temperature you need it to be. This water can then be bottled up in old drinks bottles, brought into school and used on your vegetable plot!

Waterwise planting

Crops need lots of water – but even if you are in a drought-susceptible area of the country you can still have a productive allotment. Good vegetables to grow include parsnips, carrots, onions, marrow, rhubarb, beetroot and spinach. This year, check your planting techniques:

- group plants and planters together so they shade each other.
- use large planters rather than a series of smaller ones, and use a mulch as described below.
- think about where you are collecting water, so that it is easy to use without having to transport it too far, and risk losing some on the way via leeks and spillage.
- plant a 'green manure' over the autumn and winter months. These are ground cover plants that save nutrients being washed off by rain and also add to the structure of the soil as they are dug in the spring. Suitable plants include mustard, vetches and rye.

Mulching matters

Mulch is great for helping to retain water in the soil. You can use commercial bark mulch from a garden centre, compost, newspaper, carpet, leaves, straw, pine needles, pebbles. Why not set up an experiment with different mulches to see which is the most effective?

1. At the beginning of the week soak large sheets of coloured sugar paper and lay them on the playground at the beginning of a sunny day. Cover each of them with equal layers of mulch – keep the layers thin (use the bulkiest material as your standard depth) so that there is more impact over the day.
2. Create controls by leaving one sheet uncovered and one soaked and covered with black plastic so that you can compare your results at the end of the day.
3. At the end of each day check progress by removing a section of the mulch and seeing whether the paper has dried out. Return the mulch as quickly as you can after checking.

Using mulch that can be taken into the soil and double up as a soil improver may also increase the water retention in your soil – particularly if it is a sandy soil.

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Second-time around

Take a look at how water is used in your school and where it can be recycled for use outside. For example, you could collect the water you wash crops in, and then use this to water your vegetable patch. Find other ways of using water a second time by challenging your children to make a study of water use in the kitchen, toilets, outside, in the classroom, and in the art and science rooms. Will they need to consider making sure the water is safe? Can pupils work out systems that will make it easy for this water to be collected so that the task is sustainable?

Grey water – water from baths, dishwashers, washing machines etc – can contain infectious organisms so should not be used on any crops you are going to eat. However – if used straight away – it can be ideal for watering your lawn or flower beds.

No ifs, no butts?

Water butts and rainwater harvesting systems are the perfect way to collect water and use it around your site. A water butt is just a large water store that gathers water being channelled from downpipe guttering on a building. A rainwater harvesting system is slightly more complex in that it filters the water before storing it and has an electronic pump to distribute it across your site. For most schools and settings a water butt will suffice. Most come with instructions to install, but remember also to:

- install in an appropriate place – ie, near your school garden, out of direct sun.
- stand it on a firm level surface, preferably raised above the ground so you can easily get a watering can under the tap. It's best to purchase a water butt stand, and most are universal
- cut the downpipe at the desired height and fit a diverter.
- ensure the water butt has a secure, childproof lid to prevent accidents taking place, and debris and mosquitoes from entering.
- add rainwater treatment – this should mean that water is useable for around five months. Due to risks from water-born diseases it is recommended that water that hasn't been refreshed for extended periods of time isn't used.

Looking for leaks

Leaks are a huge problem both environmentally and economically. Ofwat – the independent water monitoring agency – has set water companies targets to address the huge amounts of water being lost each day due to leakages. Why not survey your site and deal with your own leaks?

- Identify the kinds of items or areas that need to be checked (for example, guttering, taps, hoses, hose connectors, water butts etc).
- Check each item for signs of dripping or pooling water.
- Wwhere possible find out how much water is being lost. You can do this by catching dripping water over the space of one hour and working out what this equates to over a day, a week, a month and a year.
- Most leaks can be easily rectified but make sure you inform the school estate manager or caretaker before making any changes.

A clean sweep

Whenever finishing some messy work or using items like chalk it is always tempting to use a hose to clean down an area. In an effort to conserve water why not use a broom instead? This is particularly important during periods of drought.

Waterwise watering

Thinking about planting and watering in the most efficient way possible makes a great D&T project. Set children the task of creating their own systems. Ideas may include:

- using a hose that is blocked at one end and has a series of small holes in it. The difficult part of this is judging the right number and size of the holes – otherwise the pressure is lost and water will not make it all the way along the length of the pipe.
- using pots with small holes in the bottom and filled with pea shingle. The pea shingle acts as a crude form of filtration. These can then be filled up and release water via a drip method.

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