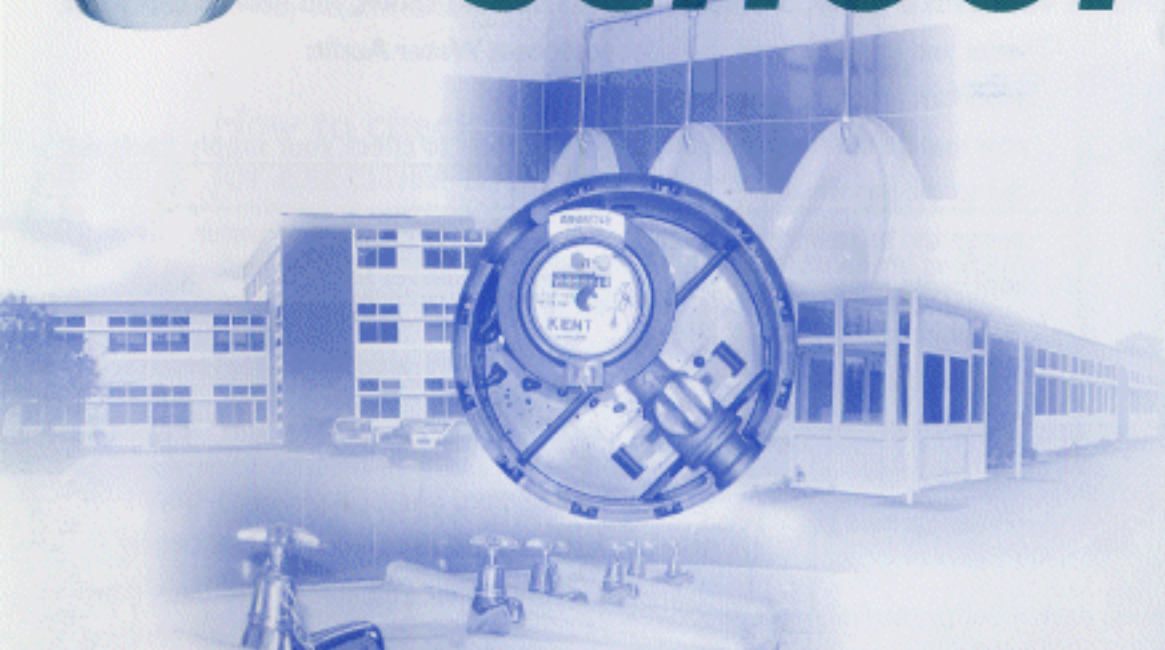
Portsmouth Water

SAVING WATER *in your* school

IN SCHOOL



Environment Agency

are you doing your bit?

Going for Green

west sussex county council

What can you do now to save water and save money too?

Water is a valuable natural resource both for mankind and the environment around us.

It is also an expense for schools both in terms of water supply by Portsmouth Water and wastewater disposal by Southern Water Services.

Simple, cost effective measures could help you reduce your consumption and achieve a payback on investment in as little as a year. At the same time your pupils can be involved in the Water Audit, by setting targets and monitoring performance. Awareness of the importance of water and its cost is very important for all of us. Schools now manage their own budgets and so the benefits of any savings can be re-invested in additional measures or used to pay for other school activities. Parents and Governors can also be involved in the project and water efficiency advice for homes can also be provided.

Research carried out by the Funding Agency for Schools showed that Primary Schools had an average water consumption of between 2,860 and 4,730 litres/pupil/year (l/p/y).

Secondary schools with their wider range of water uses had a range of 3,650 l/p/y to 5,440 l/p/y. The Audit Commission has published a benchmark of 4,000 l/p/y and it is likely that many schools can do better than this.

This booklet has been developed in conjunction with the Environment Agency and your Council to help save water in your school.

This booklet shows you how to carry out your own Water Audit:

STEP 1 ***How to check your supply for leaks***

STEP 2 ***How to check your water appliances for excessive use***

STEP 3 ***How to set up a Management Plan for Water***

This booklet also provides suggestions for water saving measures when planning improvements, extensions and even new schools. It also provides you with contacts for further advice.

STEP 1

How to check your supply for leaks

- Locate your water meter and the internal stoptap. The meter is normally located in the footpath but if you have any difficulty finding it, please contact Portsmouth Water. The internal stoptap is usually sited at the point where the supply enters the building.
- During a period of no water use, check that the meter index is stationary. If it is moving you have a leak. If it is not moving all is well and you can move on to Step 2.
- If the meter index is moving, close the internal stoptap on your incoming supply. If the index now stops, you have an internal plumbing leak; if not you have an underground leak between the meter and the internal stoptap. Arrange for any necessary repairs and then check the meter again to make sure all the repairs have been effective.
- Keeping monthly records of measured consumption is another way of alerting you to possible leakage.
- If you think you have a leak, please contact Portsmouth Water as we may be able to help.

STEP 2

How to check your water appliances for excessive use

Audits carried out at other schools have often found problems with excessive use from urinals, washbasin taps and toilet cistern overflows. Most of the water efficiency savings made in schools so far, have been made in washrooms. The following appliances should be checked:

- Urinal controls have probably been fitted in your male toilets but are they working properly? If your overall consumption per pupil is high then the urinals may be operating at night and during the school holidays. Fitting modern electronic controls may pay back the necessary investment in a few months. Battery operated units cost about £150 and can typically save £500 per year in water supply and wastewater disposal costs.

- WC cisterns traditionally hold 9 litres of water but the toilet pan may operate satisfactorily with a lesser volume, say 8 litres. This can be achieved by adjusting the ballvalve on each cistern or, alternatively, it may be easier to use a displacement device. Portsmouth Water can provide commercial devices at a subsidised cost of less than 50p each.

- Washroom taps are a common source of problems in schools. They need to be checked regularly for drips which can waste a surprising amount of water.

Water Lost due to Leaking Taps

One drip per second wastes 4 litres per day

drips breaking into stream wastes 90 litres per day

1.5mm stream of water wastes 320 litres of water per day

3mm stream of water wastes 985 litres of water per day

6mm stream of water wastes 3,500 litres of water per day

- Deliberate flooding of washrooms can be controlled by the use of pushtaps and retro-fit models are now available for under £25.

- Spray taps reduce the flow from each tap and retro-fit inserts, which may be suitable for your taps, are available for under £5. These can save up to 70% of water used for hand washing. Simple measures such as captive plugs encourage users to fill the basin in classroom situations where using running water could be wasteful.

If you use showers it may be possible to fit low flow showerheads, introduce pushbutton controls or timing mechanisms to reduce water use.

STEP 3

How to set up a Management Plan for Water

Publishing a target for water-saving and appointing **'Classroom Champions'** will help you to successfully implement your Management Plan for water.

Having located the meter and checked for leakage, it is time to calculate existing water consumption. Using the consumption figures on your water bill, and the total number of pupils in your school, estimate the annual per pupil consumption in l/p/y. You need to look at the full year to take account of school holidays. This figure can now be compared to the Audit Commission benchmark of 4,000 l/p/y. If you are above this figure, and you are confident there are no leaks, then you should consider installing some of the water-saving appliances. Portsmouth Water can offer advice or you can contact your Property Maintenance Consultancy.

If you are below the benchmark, it may still be cost-effective to introduce new measures. One school in West Sussex has recently reduced average consumption to 1,520 l/p/y saving around 2 million litres of water per year and £3,200 in water and wastewater bills. Look at each measure separately and calculate the annual savings, the capital cost and the payback period in years.

Having installed or repaired appliances, look at the meter readings again for an equivalent period to confirm the saving. Regular meter reading can be incorporated into lessons and is a useful check for leakage. Energy efficiency can also be included in the calculations where hot water is used. A good example is the use of low flow showerheads which have a double benefit in saving both water and energy.

If finding sufficient funds to initiate the project is a problem, help may be available from your Council.

Don't forget that maintenance of your existing water appliances is vital if water-savings are to be achieved and maintained. Running costs should be included in any cost/benefit calculations. This is particularly important in hard water areas like ours where limescale can be a problem.

What can you do in the future?

If you are replacing appliances, modifying buildings or are fortunate enough to be involved in a new building then some of the following things should be considered:

- Install new lower flush volume toilets and cisterns.
- Install self-closing or spray taps in hand basins.
- Install automatic controls for urinals which completely shut down at night and in the holidays.
- Use careful design of pipework, with lagging or heat tracing, to reduce cold water run off from hot supplies.
- Use pressure control systems to reduce consumption as well as wear and tear on fittings.
- Consider water efficient dishwashers for canteens.
- Consider point of use water heaters where hot water is only needed for hand washing. These can be energy efficient as well as water efficient.
- If you are planning to build a swimming pool, then ensure it is provided with a cover to reduce evaporation when not in use and to conserve energy.
- Consider separate metering of school kitchens to allow catering contractors to be charged for water.

What will be gained by saving water?

Water abstraction by Portsmouth Water is now 20% less than it was in the 1980s but personal consumption is continuing to rise. If both the Company and its customers are efficient in the use of water then we can protect our water environment for future generations to enjoy.

In addition you can save on your water supply and wastewater bills. This money can be reinvested in further water or energy-efficient projects or used to pay for other school activities. It is worth remembering that many of the water efficiency measures have pay back periods of months rather than years.

Portsmouth Water

IN SCHOOL

Want more information about Portsmouth Water?

If you would like more information about Portsmouth Water please contact us on:

Tel.No: **023 9249 9888**
Fax: **023 9245 3632**
Email: **headoffice@pwplc.co.uk**
Website: **www.portsmouthwater.co.uk**

Want help with repairs and maintenance?

If you would like help with repairs and maintenance to plumbing and heating installations contact our sister company, Portsmouth Water Lillywhites on:

Tel. No: **01243 372435**
Fax: **01243 374700**
Email: **repairs@pwlillywhites.co.uk**

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