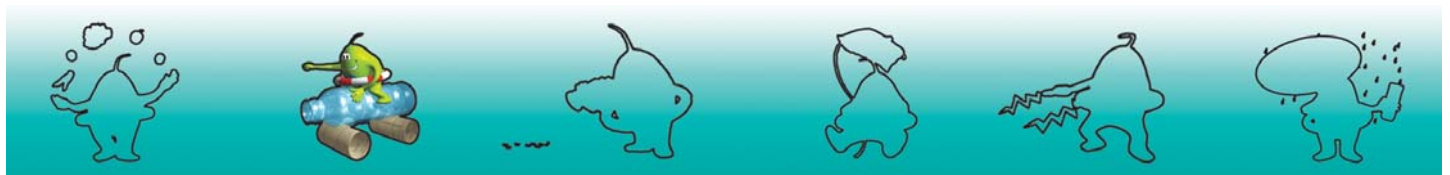


## 7.TOPIC: WASTE

Should that really go in the bin? Should you really put it in?  
Use it in another way  
And this beautiful world will stay



| Activity   | Learning points  | Curriculum Links  |
|--|--|---|
| <p><b>Emptying the Dustbin</b></p> <p>The contents of a prepared dustbin are investigated and discussed. Do they need to be in the dustbin? Could more be <b>Recycled or Re-used</b> instead?</p> <p>The materials are then sorted into categories, e.g. metal items subdivided using a magnet for steel and aluminium; plastics further examined and divided into pvc, reusable, recyclable; old clothes sorted for re-use or rags.</p> <p>This will also stimulate discussion about whether some items could be eliminated from use to understand the concept of <b>Reduce</b>.</p> <p>Finally what are frequently in the students dustbins at home is discussed and how they might be able to implement the <b>three R's</b> in their own home.</p> | <p>A. Use observations to draw conclusions</p> <p>B. To compare everyday materials and objects on the basis of their material properties, including magnetic behaviour, and relate these properties to everyday uses of the materials.</p> <p>C. Recognise that there are hazards with processing materials - What actions can be taken to reduce risks to themselves and others.</p> <p>D. Recognise how people can damage the environment as a result of their waste - Such as space for landfill sites space and pollution</p> <p>E. Contribute and listen to views in a group discussion before coming to conclusions</p> <ul style="list-style-type: none"> <li>• Team work/helping each other</li> <li>• The quantity of waste produced and each persons opportunities to reduce, re-use or recycle it</li> <li>• The implications of waste for global warming (e.g. methane from waste is an important greenhouse gas).</li> <li>• Thinking locally to act globally</li> <li>• Simplicity of solutions</li> <li>• Realising the value of some 'waste' through reuse</li> <li>• Some waste is unnecessary in the first place; the concept of Reduce</li> </ul> | <p>A. Science/Sc1 Scientific Enquiry, 2j (Investigative skills)</p> <p>B. Science/Sc3 Materials and their properties, 1a (Grouping and classifying materials)</p> <p>C. Science/Breadth of study, 2b (health &amp; safety)</p> <p>D. Geography/ Knowledge, skills and understanding, 5a (Knowledge and understanding of environmental change and sustainable development)</p> <p>E. English/EN1 Speaking &amp; Listening, 3a, 3b, 10b, 10c (Group discussion &amp; interaction)</p> |



|  |  |  |
|--|--|--|
| <p><b>Making a rug</b></p> <p>A wooden loom is used to make a rug by weaving waste materials such as old clothes, sheep fleece, or rags. The aim is to take home what they have made.</p>  | <ul style="list-style-type: none"> <li>• The practical skills of weaving</li> <li>• Re-use of waste materials</li> <li>• Fun!</li> </ul>   |  |
| <p><b>Analysing a Compost bin</b></p> <p>A working compost bin is analysed to see what it looks like and what's in it - rotted down matter and worms.</p> <p>A plant pot is filled with compost and the number of worms in it counted. The students then estimate how many worms are likely to be in the whole compost bin.</p>  | <p>A. The value of nature - worms and the composting process</p> <p>B. Approximating and estimating numbers in a practical context and drawing inferences</p> <p>C. Recognise that measurement is approximate</p> <ul style="list-style-type: none"> <li>• The value of waste - re-use green materials to make fertiliser</li> <li>• Lack of need for chemical fertilisers</li> <li>• Thinking locally to act globally</li> <li>• Reducing the amount of waste in a dustbin</li> </ul> | <p>A. Science/Sc2 Life processes and living things: 5f (Living things in their environment)</p> <p>B. Mathematics/ Breadth of study, 1b,1d,1e</p> <p>C. Mathematics/ Ma3 Shape, space and measures, 4b (Understanding measures)</p>              |
| <p><b>Making a Compost bin</b></p> <p>A new compost bin is built using old tyres, suitable contents collected and used to fill the bin.</p> <p>How this might be replicated at home is discussed.</p>  | <ul style="list-style-type: none"> <li>• Design a compost bin that could be repeated at home</li> <li>• The value of waste - re-use of tyres to make compost bin</li> <li>• Team work</li> <li>• See also above for 'Analysing a compost bin'</li> </ul>   |  |
| <p><b>Extra/Optional activity: Pack lunch</b></p> <p>The contents of students packed lunch are examined.</p> <p>What waste will be left after eating it?</p> <p>Could there have been less packaging?</p> <p>What can be done with the waste that is there?</p> <p>Any waste produced is disposed of in the most appropriate places, e.g. compost or recycling tubs.</p> | <p>A. Waste as a resource</p> <p>A. Necessary and unnecessary waste</p> <p>A. Recycle, Re-use, Reduce</p> <p>B. Contribute and listen to views in a group discussion before coming to conclusions</p> <ul style="list-style-type: none"> <li>• Simple solutions</li> </ul>   | <p>A. Geography/ Knowledge, skills and understanding, 5a, (Knowledge and understanding of environmental change and sustainable development)</p> <p>B. English/EN1 Speaking &amp; Listening, 3a, 3b, 10c (Group discussion &amp; interaction)</p> |

## 7. TOPIC: WASTE (PREPARATION)

**Session length:** 1 hour 15 min

**Staff:** One facilitator plus helper.

**Location:** Undercover venue (possibly near existing compost bin). Sitting place required, for weaving (eg clean ground/floor with upturned crates/benches or low table).

**Specific Health and Safety Issues:** Dealing with waste so use gloves. Still necessary to wash hands  
This is a pre-prepared dustbin so no sharp or dangerous items - if doing this at home - be careful!

**Preparation:** Assemble materials before start.

**Post activity actions:** Dismantle compost bin, Re-assemble dustbin, Collect gloves, Wash hands, Take home cushions.

### Method

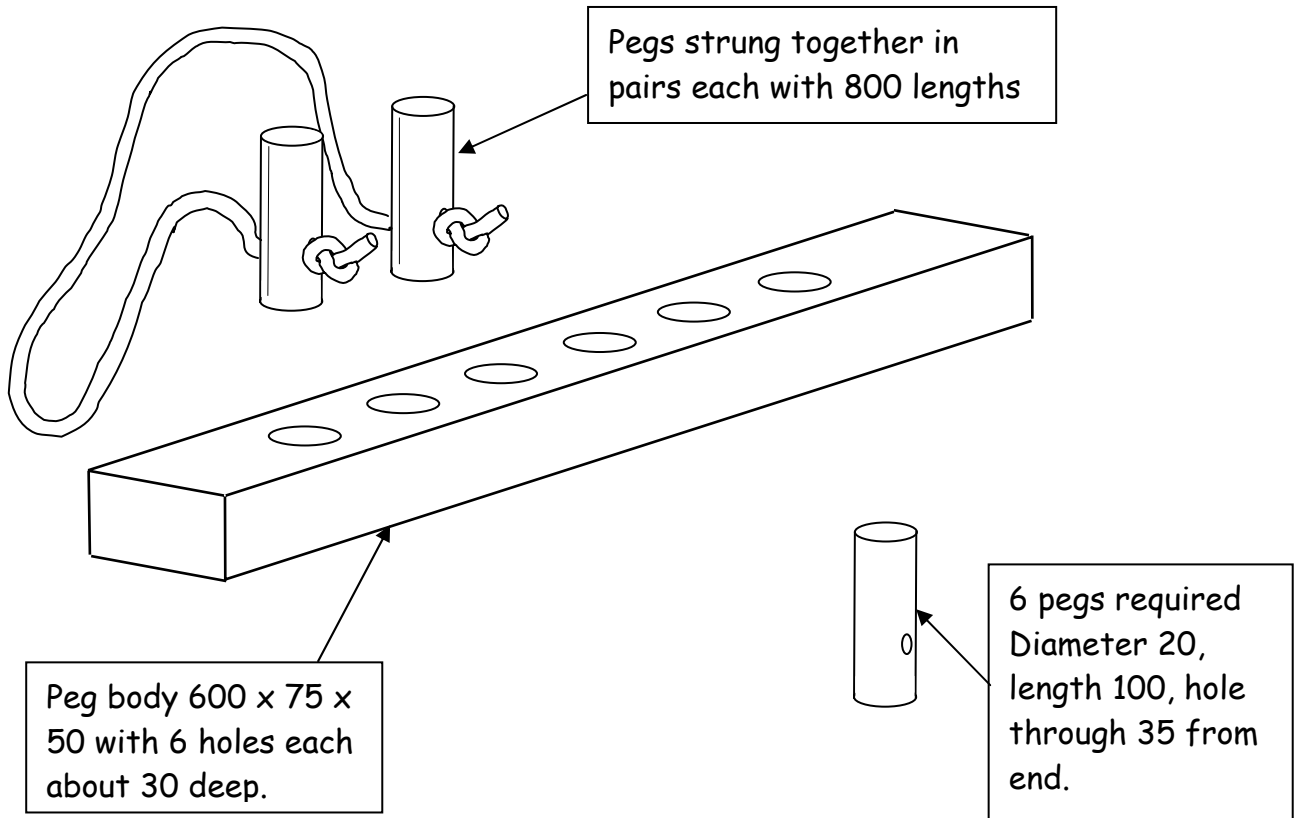
| Timing         | Activity                       | Materials  | Source of Materials/Notes  |
|----------------|--------------------------------|--|--|
| 15<br>(15)     | <b>Emptying the dustbin</b>    | <ul style="list-style-type: none"> <li>• Clean Dustbin containing pre prepared items.</li> <li>• Cardboard plaques with large labels: COMPOST, GLASS, PAPER, CARDBOARD, PLASTIC, METAL, OTHER, RUBBISH</li> <li>• 1 Magnet</li> <li>• 10 pairs gloves</li> </ul> | Plastic, paper bags, drinks cans, food tins, newspaper, used envelopes, packaging, mobile phone, oil, used printer cartridge, compost, clothes, cardboard, nappy, bottles, etc |
| 10<br>(25)     | <b>Analysing a compost bin</b> | <ul style="list-style-type: none"> <li>• 1 in-use compost bin</li> <li>• 5 Plant pots</li> <li>• 5 trowels</li> <li>• 10 pairs gloves</li> <li>• Prediction sheet and wax crayon</li> </ul>  | Garden centre  |
| 10<br>(35)     | <b>Making a compost bin</b>    | <ul style="list-style-type: none"> <li>• green waste - including vegetable peelings, and fallen leaves</li> <li>• 10 old car tyres</li> <li>• Ply board to put compost bins on</li> </ul>  | Local garages can supply tyres.  |
| 35<br>(1hr 10) | <b>Making a rug</b>            | <ul style="list-style-type: none"> <li>• 10 pre-prepared wooden peg looms</li> <li>• Benches</li> <li>• String</li> <li>• Strips of material, combed fleece</li> <li>• 2 pairs scissors</li> <li>• 1 Marker pen to write names on finished cushions</li> </ul>   | <p>Peg loom available from HHP or made to drawing below</p> <p>The string is used to tie looms to bench and for use in looms</p>   |
| 5 (1hr 15)     | <b>Recap and Wash hands</b>    |  | Recap activities and sum up learning points  |



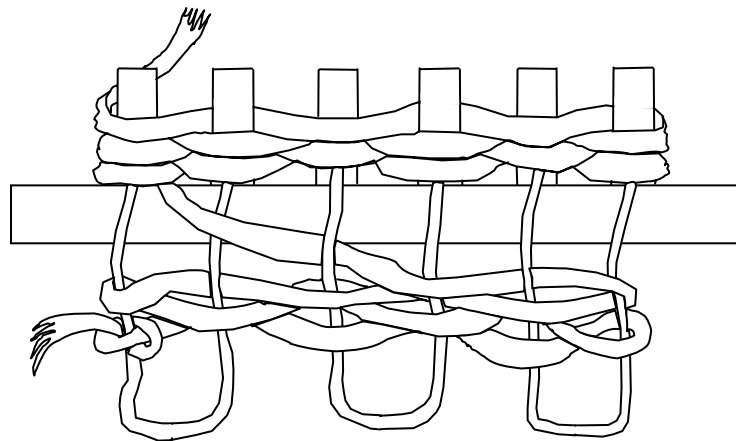
# 7.TOPIC : WASTE

Peg Loom for rag rug activity

(all measurements in mm)



Peg loom with rags being woven



## 7.TOPIC : WASTE

|                             | PREDICTION | ACTUAL |
|-----------------------------|------------|--------|
| <b>NUMBER OF WORMS IN :</b> |            |        |
| <b>COMPOST<br/>BIN</b>      |            |        |
| <b>FLOWER<br/>POT</b>       |            |        |

|                           | Pot 1 | Pot 2 | Pot 3 | Pot 4 | Pot 5 | Pot 6 | Pot 7 | Pot 8 | Pot 9 | Pot 10 | Total<br>number of<br>worms in all<br>pots (A) |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--|
| No of<br>worms per<br>pot |       |       |       |       |       |       |       |       |       |        |  |

Total number of children's pots (B) =

Average number of worms per flower pot (A/B) =

Estimate of number of flower pots of compost in the whole compost bin (C) =

Number of worms in whole of compost bin (A/B × C) =



## 7. TOPIC: WASTE



### Problem Solvers Actions

#### What can you do?

- Sort waste into recyclable materials, don't just put it all in the dustbin
- Use both sides of a piece of paper where possible
- Re-use envelopes and scrap paper
- Use a washable hankie instead of paper tissues
- Make your own cards and presents (2.25 million tons of xmas waste was produced in 2000)
- Make your own Halloween materials (see [www.pumpkin-carving.com](http://www.pumpkin-carving.com))
- Recycle old toys and make a present for a less fortunate child (see [www.samaritanspurses.org.uk](http://www.samaritanspurses.org.uk))
- Don't create waste in the first place - buy items with less packaging
- Organise a litter pick (see [www.encams.org](http://www.encams.org) for a free clean up kit including a guideline booklet, sashes, bin bags, poster and badges)

#### What can you do with your teacher at school?

- Make or buy a compost bin and use it - check your local authorities to see if they offer a local compost scheme (check out the Community Composting Network [www.othas.org.uk](http://www.othas.org.uk)). Add worms - some can recycle half their body weight in waste a day to provide a rich compost for school or garden. (see [www.wigglywiggers.co.uk](http://www.wigglywiggers.co.uk))
- Get your school involved with Compost Awareness Week (see [www.compost.org.uk](http://www.compost.org.uk))
- Provide recycling bins in the classroom and separate plain from coloured paper
- See if your teacher could make use of any old paper, materials, wallpaper
- Join Schools Waste Action Club (see [www.wastewatch.org.uk](http://www.wastewatch.org.uk))

#### What can you do with your parents at home?

- Donate leftover paint (see [www.communityrepaint.org.uk](http://www.communityrepaint.org.uk))
- Recycle textile materials (see [www.wastepoint.co.uk/wasteconnect](http://www.wastepoint.co.uk/wasteconnect))
- Recycle curtains (see [www.curtainexchange.net](http://www.curtainexchange.net))
- Recycle furniture and wood (see Furniture Recycling Network [www.reuze.co.uk](http://www.reuze.co.uk) or if you like the idea of furniture made from recycled bottles see [www.re-formfurniture.co.uk](http://www.re-formfurniture.co.uk))
- Share appliances and tools with friends or neighbours
- When you go shopping, take a bag rather than taking more plastics bags home - also look out for bio-degradable bags that will soon become available
- Buy from shops that sell recycled items, such as charity - many of them also sell fairly traded goods, helping the less well off in third world countries.
- Stop junk mail being delivered at home or possibly the school by registering with the Mailing Preference Service ([www.mpsonline.org.uk](http://www.mpsonline.org.uk))
- Use recycled toilet paper (a typical home uses nearly a mile of toilet paper a year)



## Problem solvers Further Resources

### For problem solvers:

- **Children's scrapstore** ([www.childrensscrapstore](http://www.childrensscrapstore.com)) - Supplies materials for children's art and play produced from cleaned and safe waste products
- **Eco-Schools** ([www.eco-schools.org.uk/html/kids/kids\\_index.html](http://www.eco-schools.org.uk/html/kids/kids_index.html)) - Meet Campo the worm in the Kids Zone of eco-schools.
- **Ellie Poo Paper Company** ([www.elliypoopaper.com](http://www.elliypoopaper.com)) - no I'm not kidding - they really do make paper from elephant poo!
- **Ollie Recycles** ([www.ollierecycles.com/uk](http://www.ollierecycles.com/uk)) Join Ollie and his friends and find out about the 3R's - Reduce, Reuse, Recycle. Ollie's dog, Buster, has a quiz for you at the end.
- **Recycling Glass** ([www.recyclingglass.co.uk](http://www.recyclingglass.co.uk)) - This educational site by British Glass provides simple facts about glass. There is a chance for pupils to have pictures they have drawn put on the website, do a quiz and receive a certificate. Teachers can order a free copy of a CD ROM featuring resources for key stage 1 and 2.

### Mainly for adults and teachers:

- **Centre for Alternative Technology** ([www.cat.org.uk](http://www.cat.org.uk)) - CAT is a visitor centre where techniques for sustainable living are in use and on display. Their website includes a virtual tour of CAT, together with information about facilities, school visits, publications, other resources and courses.
- **Eco-Schools Award Scheme** (<http://www.eco-schools.org.uk/>) - This is a European-wide scheme for recognising schools that take steps to reduce their adverse environmental impact. Litter and waste minimisation are some of the topics.
- **Growing Schools Garden** ([www.teachernet.gov.uk/growingschools](http://www.teachernet.gov.uk/growingschools)) - Find out about a new teacher training resource at the Environmental Curriculum Centre, Eltham - full of recycling facilities and 'green' ideas.
- **Nottingham County Council** ([www.nottinghamshire.gov.uk/home/environment/recycling.htm](http://www.nottinghamshire.gov.uk/home/environment/recycling.htm)) - Everything you need to know about waste and recycling in Nottinghamshire - Includes an A-Z directory of how to dispose of practically anything.
- **Waste Watch** ([www.wastewatch.org.uk](http://www.wastewatch.org.uk)) - Produce 'wasted'; an excellent educational newsletter focused on waste - full of ideas for schools.

## GLOBAL RELEVANCE OF WASTE TOPIC

Nature is very effective at dealing with almost any sort of waste - if it is given enough time. The problem is that the earth cannot deal with the amount of new chemicals and rubbish produced by people in such large quantities. Most of the world's waste is produced by people from the 'developed' world (which includes Britain), even though these people only make up about 5% of the world's population. On average each person produces about 500 kilos of household waste per year - and we keep producing more each year. However at least half of the contents of our dustbins could be recycled - but only 12% is, with most of the remainder going to landfill. More and more of our 'green spaces' are being used for landfill - where will we put it when there is no space left? Other countries recycle a lot more than the UK e.g. 19% in Denmark, 22% in Switzerland and over 40% in Japan.

*"Paper and card are the main ingredients of household rubbish, making up approximately one third of the waste produced by Britain's homes. The amount of waste paper buried each year would fill 103,448 double decker buses. If these were parked nose to tail, they would reach all the way from London to Milan in Italy". (Waste watch). And then there's glass, tins, bottles, compostable organic waste and nappies - need I go on?*

## 8. TOPIC: WATER

Pure and simple comes the rain  
 Filling up the empty drain  
 And with neither a pause nor a gap  
 It comes gushing out of a bathroom tap



| Activity  | Learning points   | Curriculum Links  |
|---|---|---|
| <p><b>Making Sand Filter</b></p> <p>A pre-prepared demonstration sand filter is first shown to the children, before they assemble their own using:</p> <ul style="list-style-type: none"> <li>• Pebbles to prevent blockage in tube</li> <li>• A membrane to separate pebbles and sand</li> <li>• Sand to filter.</li> </ul> <p>They then collect and pour dirty lake water through their filter to harvest cleaner water (<i>this may be circulated two or three times</i>).</p> <p>Their filters are compared to the HHP sand filters with a discussion on how they work (<i>sand is like a sieve removing particles - Over time a special 'Schmutzdecker' layer would develop naturally to improve the filtration process further see <a href="http://www.hockertonhousingproject.org.uk">www.hockertonhousingproject.org.uk</a></i>).</p> <p>The wider implications are discussed:</p> <ul style="list-style-type: none"> <li>• Waste water /sewage usually cleaned with chemicals for re-use.</li> <li>• Does all water need to be cleaned to drinking water standard?</li> <li>• Water collection /storage methods</li> </ul> | <ul style="list-style-type: none"> <li>A. Thinking creatively to explain how things work</li> <li>B. Use of simple equipment, technology and materials with actions to control risks (safety when collecting lake water and pouring waste water away from activity site)</li> <li>B. Use of conclusions to understand and explain other situations (extrapolation to wider issues):             <ul style="list-style-type: none"> <li>• Clean water for washing/toilet purposes</li> <li>• Not a rigorous enough process for UK drinking water</li> </ul> </li> <li>C. How to separate insoluble solids from liquids by filtering</li> <li>D. Recognise how people can improve or damage their environment and how these decisions affect quality of other people's lives - such as             <ul style="list-style-type: none"> <li>• Water is a finite resource</li> <li>• How water use and quality has a wider impact on the environment</li> </ul> </li> <li>E. Contribute and listen to views in a group discussion before coming to conclusions             <ul style="list-style-type: none"> <li>• 'Appropriate' technology can be simple to make and use.</li> <li>• Team work/helping each other</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>A. Science/Sc1 Scientific Enquiry, 1a (Ideas and evidence in science)</li> <li>B. Science/Sc1 Scientific Enquiry, 2e, 2i,2j,2l (Investigative skills)</li> <li>C. Science/Sc3 Materials and their properties, 3c (Separating mixtures of materials)</li> <li>D. Geography/ Knowledge, skills and understanding, 5a, (Knowledge and understanding of environmental change and sustainable development)</li> <li>E. English/EN1 Speaking &amp; Listening, 3a, 3b, 10b, 10c (Group discussion &amp; interaction)</li> </ul> |



|  |  |  |
|--|--|--|
| <p><b>Turbidity Test</b></p> <p>The turbidity /cloudiness of two different water samples are compared:</p> <ul style="list-style-type: none"> <li>• Student filtered lake water</li> <li>• HHP non-potable water or "tap water".</li> </ul> <p>The measuring equipment is first explained before children predict and record scale readings for each sample.</p> <p>The children compare their predictions with actual results to determine accuracy. They go on to discuss their findings and wider issues:</p> <ul style="list-style-type: none"> <li>• Why might student's sand filter be not as effective as HHP's or that of a water company's?</li> <li>• How clean does water need to be depending on use (e.g. flushing toilets versus drinking).</li> </ul> | <ul style="list-style-type: none"> <li>A. Testing ideas using evidence from observation and measurement</li> <li>B. Prediction of outcomes (turbidity)</li> <li>B. How to make a fair test and comparison by changing one factor (water source) and measuring outcome</li> <li>B. Use of simple equipment and materials to take measurements with actions to control risks (safety re bumping heads, and safety of pouring waste water away from activity site )</li> <li>B. Use of conclusions to understand and explain other situations (extrapolation to wider issues) <ul style="list-style-type: none"> <li>• How clean does water need to be?</li> <li>• Clean water as a resource not to be wasted.</li> </ul> </li> <li>C. Recognition that measurement is approximate - understand and practical use of scales</li> <li>D. Drawing inferences from data in a practical activity, and recognising difference between meaningful and misleading data.</li> <li>E. Contribute predictions and views in a group discussion before coming to conclusions</li> <li>• Only tests for cloudiness - not for safety of drinking water</li> </ul> | <ul style="list-style-type: none"> <li>A. Science/Sc1 Scientific Enquiry, 1b (Ideas and evidence in science)</li> <li>B. Science/Sc1 Scientific Enquiry, 2a,2c,2d,2e,2g 2i,2j, 2k (Investigative skills)</li> <li>C. Mathematics/ Ma3 Shape, space and measures, 4b (Understanding measures)</li> <li>D. Mathematics/ Breadth of study, 1b,1d,1e</li> <li>E. English/EN1 Speaking &amp; Listening, 3a, 3b, 10c (Group discussion &amp; interaction)</li> </ul> |
| <p><b>Taste Test</b></p> <p>Students are provided with three different samples of water which they have to taste and guess their source:</p> <ul style="list-style-type: none"> <li>• HHP roof or treated rain water - If available</li> <li>• Hockerton mains</li> <li>• Expensive bottle.</li> </ul> <p>A show of hands demonstrates the considered source before the real source is revealed. Taste differences are discussed such as chemically, muddy, soft, hard.</p> <p>Wider issues of water collection and treatment are then discussed. (At HHP water collected from the roof, whilst in students homes via the sewage works and chemicals).</p>   | <ul style="list-style-type: none"> <li>A. Taste of water varies depending on source</li> <li>A. Use of conclusions to understand and explain other situations (extrapolation to wider issues) <ul style="list-style-type: none"> <li>• Water treatment affects taste?</li> <li>• Wasted resource due to leaky pipes</li> <li>• Use of local water collection methods</li> </ul> </li> <li>B. Use of comparisons based on material properties and relate to their everyday use</li> <li>C. Contribute predictions and views in a group discussion before coming to conclusions</li> <li>• How to reduce water usage and wastage to manage environment more sustainably.</li> </ul>  | <ul style="list-style-type: none"> <li>A. Science/Sc1 Scientific Enquiry, 2i, 2j (Investigative skills)</li> <li>B. Science/Sc3 Materials and their properties, 1a (Grouping and classifying materials)</li> <li>C. English/EN1 Speaking &amp; Listening, 3a, 3b, 10c (Group discussion &amp; interaction)</li> </ul>  |

## 8. TOPIC : WATER (PREPARATION)

**Session length:** 1 hour 15 min

**Staff:** One facilitator plus helper.

**Location:** Outside venue near to water supply (Ideally pond or lake). Gazebo for weather protection

**Specific Health and Safety issues:** Instruct not to put hands in mouths. Ensure hands are washed thoroughly at end of activity. Instructions on safe behaviour near water. Collection from shallow water location. High adult/child ratio for water collection.

**Preparation:** Assemble materials before start. Ensure glasses are clean!

**Post activity actions:** Dismantle filters ensuring sand is separated for storage. Wash hands.

### Method

| Timing         | Activity                    | Materials   | Source of Materials/Notes  |
|----------------|-----------------------------|---|--|
| 5<br>(5)       | <b>Introduction</b>         | <ul style="list-style-type: none"> <li>Briefing sheets including "Needs and Problems"</li> </ul>  | Resource Pack  |
| 32<br>(37)     | <b>Making Sand Filter</b>   | <ul style="list-style-type: none"> <li>Pond/Lake water(dirty) to be cleaned</li> <li>Buckets to collect water x 4</li> <li>Geotextile membrane x4</li> <li>Filter containers ie. Buckets with tubes x 4</li> <li>Clean buckets to collect filtered water x 4</li> <li>Washed Sand</li> <li>Pea gravel</li> <li>Pipe with holes in</li> <li>Trowel x 4</li> <li>Bench to put filters on</li> </ul> | <p style="text-align: center;">Sand filter in a bucket</p>   |
| 20<br>(57)     | <b>Turbidity Test</b>       | <ul style="list-style-type: none"> <li>Clear tubes (≈1m long) with small hole in base, marked bottoms and scale 0-100cm on the side x4</li> <li>Jugs to pour water into tubes x4</li> <li>Unfiltered lake water</li> <li>Student's filtered water</li> <li>"Tap" water</li> </ul>   | Some suitable clear plastic packaging can be used for the tubes. The idea is to look through a column of water to "see" a small mark at the bottom. Fill the tube and let the water drain, when the mark can be seen at the bottom record the depth of water. Avoid water spilling onto feet! Repeat x 3 |
| 13<br>(1hr 10) | <b>Taste Test</b>           | <ul style="list-style-type: none"> <li>Three bottles of water marked A,B and C. Identity of each unknown to student.</li> <li>Glasses - one per student</li> <li>Card with identities on</li> </ul>   | <ul style="list-style-type: none"> <li>A= HHP drinking water</li> <li>B= Local tap water</li> <li>C= Bottled mineral water</li> </ul>  |
| 5<br>1hr 15    | <b>Recap and Wash hands</b> |   | Recap activities and sum up learning points  |





## 8. TOPIC: WATER



### Problem Solvers Actions

#### What can you do?

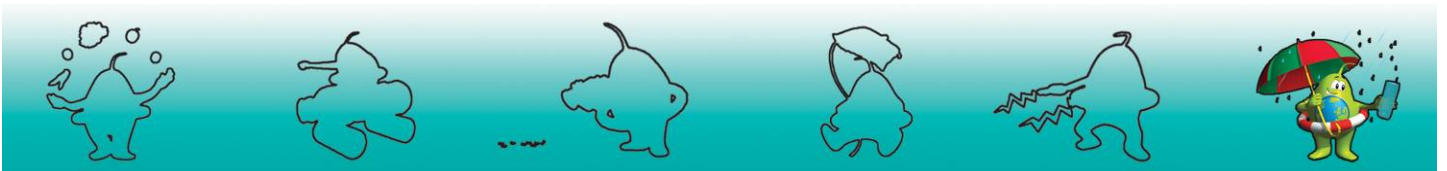
- Turn off the tap when you are brushing your teeth! (if you let it run, it wastes up to 8 litres in a minute)
- Turn off dripping taps - a tap dripping once a second can waste 5 litres in an hour.
- Have a shower instead of a bath - or share the bath!
- Think before flushing a toilet - avoid flushing all the time - *"if it is yellow let it mellow, when it is brown, flush it down"* (well maybe at home if your parents are cool about it!).

#### What can you do with your parents or teacher at home and school?

- Help your school to save water and money (see [www.eco-schools.org.uk](http://www.eco-schools.org.uk))
- Install a water butt to collect waste rainwater from your roof, use this to water the plants, clean the car, and any other activities that don't require drinking water
- Check your house for water leaks (see [www.h2ouse.org](http://www.h2ouse.org))
- Make your toilet more water-efficient - Fill a plastic bottle with water, seal it and put it in the toilet cistern - you'll use less water that way! - or use 'Hippo water saver' (see [www.hippo-the-watersaver.co.uk](http://www.hippo-the-watersaver.co.uk))
- If you have to buy a new loo, or washing machine or dishwasher then buy a water saving one.
- Use rainwater or grey water to water plants or use plants that don't need so much water (like lavender, lilacs, tulips, sunflowers, carnations, wall flowers, jasmine, holly, broom, buddleia and crocuses, climbing roses, thyme, red hot poker, rosemary and cat mint, sage, poppies, cornflowers and alliums...)
- Try not to use a sprinkler or hosepipe on your garden, that's drinkable water you'd be using!
- Put mulch (organic bark or grass cuttings) over the soil to keep the water in.

### Problem solvers Further Resources

- **Eco-Schools Award Scheme** (<http://www.eco-schools.org.uk/>) - This is a European-wide scheme for recognising schools that take steps to reduce their adverse environmental impact. Water is one of the themes.
- **Environment Agency** ([www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)) - a useful website which covers many water and waste issues. Includes environmental games, watch and interact with animations, interesting facts and figures and a screensavers download.



## GLOBAL RELEVANCE OF WATER TOPIC

Water is essential for many aspects of our lives. We use it not just for drinking and washing but also for industry, agriculture and making almost any kind of product, from sugar and bottles to paper and cars. Our demand for water has increased to the point that the natural water cycle can no longer keep up. Pollution, mainly caused by sewage leaks and chemical discharges, has made clean water a rare and valuable commodity.

Although water itself does not cost money, the supply of clean water is expensive because of the process to provide clean water by companies who manage, treat and distribute supplies to meet demand. This is made more difficult since most of the rainfall in the UK is where the population is smallest, so that water has to be piped across long distances. The more we waste water (or the more water companies allow it to leak out of their pipes) and the more polluted rivers and streams get, the harder it is for water companies to provide clean water, and may lead to water supply getting even more expensive.

Reducing our water use is not just about saving money. The provision of clean water is essential to the health of people and the environment. In many parts of the world, and even in some parts of the UK, low rainfall can lead to water shortages. In many countries the situation can be very serious, where water is scarce and where supplies frequently become contaminated by bacteria or pollution. This can lead to widespread disease and even death.

If we use too much of the rainfall in any area streams and rivers can dry up. This has occurred a number of times to rivers in the drier south east of England in the late 1990s. When a stream or river dries out it has a serious impact on wildlife; very little is able to survive. It can take years before the wildlife can fully recover.

**The Hockerton homes overlooking the lake - The water from the conservatory glass roof is collected for drinking purposes**

