Recycling
– the possibilities are endless!

Activity one – matching pairs

Successful recycling has two sides to it. Recycled materials need to be collected correctly and then made into new products that we will buy and use again. Cut out or copy the ten pictures below and stick onto old card. Can the class match up the pairs of recycled rubbish and the products made from it?

printer

wine glasses

bike

cans

compost

bottles

organics

pens & rulers

loo rolls

newspapers

Activity two – internet investigation

The following activity concentrates on the recycling of one material, glass. You can find the answers and fill in the gaps by looking on two excellent web-sites: www.recyclingglass.co.uk and www.rockware.co.uk/index-recycling/index-recycling.html. (See below for answers)

1. When we buy glass bottles and jars they come in four colours. These colours are _____ _____ _____ and _____

2. Used bottles and jars can be taken to a special recycling bank. This is called a _____ bank.

3. The glass is emptied from the bank by lorries and the coloured glass is kept in separate containers. Blue glass should be put in with the _____ glass.

4. The scrap glass is crushed and cleaned at the recycling factory. It is now called _____.

5. The glass is mixed with raw materials and is melted at _____ °c.

6. The glass is made into new bottles and jars, drinking glasses or even a road surface material called _____.

Matching pairs answers

1. Newspapers – loo roll
2. Cans – bike
3. Printer – pens/ rulers
4. Bottle – wine glasses
5. Organics – compost

Investigation answers

1. green, clear, brown and blue
2. bottle
3. green
4. cullet
5. 1600°c
6. glasphalt

The activities on this page link to national curriculum areas including science and geography.

What is recycling?

Recycling is the process by which materials are collected and used to make new products. Many materials can be recycled: glass, metal, paper and cardboard, plastic, even clothes and wood.

Is recycling important?

Recycling is very important as everyone makes rubbish. Every week an average family in England and Wales gets through an average of:

- 6 glass bottles or jars
- 14 cans
- 8 plastic bottles
- 4 kilograms of paper

In total, UK households produce 82,000 tonnes of rubbish every day – the same weight as 16,000 fully grown African elephants. We cannot continue burying or burning this amount of rubbish forever and recycling is one of the solutions.

Recycling reduces the demand for raw materials which means that less needs to be mined, quarried or felled, all of which have implications for the environment and the people and animals that live in it. Also, transporting raw materials around the world uses large amounts of fossil fuel. Although some materials for recycling need to be transported, the impact of this is significantly less than that of transporting raw materials from remote parts of the world. Recycling also uses less energy than producing goods from virgin material and results in less pollution.

How does it work?

Materials collected for recycling are sorted at a Materials Recycling Facility (or 'MRF'). This uses mechanical and manual systems to separate the recycling into different materials, and remove any that shouldn't be there.

The sorted materials are then sent to reprocessors who prepare them for use in the manufacture of new products. Some reprocessors turn the sorted materials into new products themselves.

Sorting paper at a Materials Recycling Facility or 'MRF'.

Buying recycled

Buying recycled products helps to create a demand for the materials recovered by recycling schemes. For recycling to work, there need to be markets for the products made with recycled materials. Buying recycled helps keep reusable material in the economy, reduces the amount of waste needing to be landfilled and conserves resources, particularly energy.

Many products contain recycled materials as part of the normal manufacturing process. Examples of these include newspapers, glass jars and steel and aluminium cans. We, as consumers, can also make intelligent choices and actively choose recycled products in preference to ones made entirely of virgin materials, for example by purchasing copier paper and kitchen towels with a 100% recycled paper content. In some cases the recycled products are very different from the materials from which they are made. For instance, waste plastic can be used to make imitation wooden benches and waste glass used to make road surfacing.

Classroom activity

Aim: To understand what happens during the recycling process, that there are many recycled products available to buy and that purchasing them helps to save resources and reduce pollution.

What to do

1. Read the information provided on this page as a quick introduction to recycling.

2. Divide the class into small groups and give each group either **aluminium** or **glass** to research using the websites below.

- **www.wasteonline.org.uk**
- **www.recyclezone.org.uk**
- **www.recyclemore.org.uk**
- **www.recycledproducts.co.uk**
- **www.greenchoices.org.uk**

Relevant pages can be printed out before the lesson if internet access will not be available.

3. Use the information gained to create a spider diagram for the material covering the following points:

- Information about the material – what it is used for, its properties, and statistics about it.
- Why it is important to recycle the material.
- The recycling process.
- The different products that can be made from the material e.g. a metal can could be recycled into a car part.

4. Ask each group to present their finished spider diagrams to the rest of the class. Use them to explain why recycling the material is better than throwing it away.

Homework

What to do

Research recycled products using the websites listed below. Find out where you can buy the following items in order to create a "Save the Planet" school bag:

1. School Bag	2. Pencil	3. Ruler
4. Pencil case	5. Pen	6. Notebook

- **www.earthpak.com**
- **www.greenstat.co.uk**
- **www.recycledproducts.org.uk**
- **www.remarkable.co.uk**
- **www.recycled-products.co.uk**
- **www.londonremade.com**

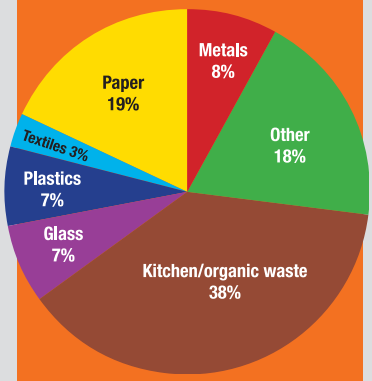
Record where you can purchase each item and how much it costs. Compare your results with your class mates to see who can find the best bargain.

Activities on this page link to the national curriculum areas of English, science, design & technology, geography and citizenship.

A whirlwind tour of issues relating to recycling

The figures

• Each UK household produces over 1 tonne of rubbish each year. This adds up to more than 30 million tonnes of waste every year, enough to fill the new Wembley stadium to the brim in just 3 days.



• The amount of waste we produce is growing by between 2 and 4% a year.

• On average, households are now recycling more than 20% of their rubbish but more than 60% of what's thrown away can actually be recycled.

The issues

• Unless we increase recycling rates and start to buy recycled products, resources which in some cases have taken millions of years to form, will be lost forever.

• About 80% of all households now have doorstep recycling schemes but in some cases these are underused.

• Many of our European neighbours are recycling more than we are in the UK.

• Although figures show that many of us are recycling, the number of people buying recycled products is still very low and this can create a problem due to lack of demand for recycled materials.

The politics

• The EC Directive on 'Packaging and Packaging Waste' seeks to reduce the impact of packaging waste on the environment by introducing recycling targets for this waste and encouraging manufacturers to use less packaging. The target for the EC Member States is for between 55% and 80% of packaging waste to be recycled by 2008.

• The Waste Strategy 2000 aims for a 50% reduction in the biodegradable waste (i.e. waste that will rot away) going to landfill by 2013, compared to the amount in 1995. Although most people know that this includes food waste, they do not realise that it also includes paper and card which, if they decompose anaerobically (without the presence of oxygen) in a landfill site, produce methane, a highly flammable greenhouse gas.

The solutions

• The opportunity to recycle is now widely available in most areas. As well as kerbside collection schemes, materials can also be taken to recycling banks (known as 'bring sites'), often located at local supermarkets. You can find the location of your nearest bring site by entering your postcode at www.recyclenow.com.

• If your school does not already have recycling facilities, you may be able to obtain these by contacting your council's recycling officer. Paper is still the most common material collected from schools but in some areas, card, metal cans, plastic bottles, ink and toner cartridges and aluminium foil can also be collected. Some local authorities may be able to replace an existing waste bin with a recycling bin, thereby cutting your waste collection bill and saving your school money.

• If you are a London school, you can sign up to the Mayor's Green Procurement Code which puts you in touch with a London Remade broker who can provide information on the cheapest suppliers of recycled products.
Visit www.london.gov.uk/mayor/environment/waste/green_procurement_code.jsp

Take action

• Develop an action plan to implement a recycling scheme in your school. Get the backing of all the staff including the head teacher, site manager and kitchen staff.

• Buy recycled paper for your school. Recycled brands are as good as those produced from virgin pulp and may not cost any more. You might need to shop around but your waste management department or local education authority may be able to help negotiate a lower price.

• Form an environment group at school. It could even be part of your school council.

• Go to Waste Watch's new Waste Education Gateway (see page 5) to find out whether there is anyone in your area who can run a waste education programme at your school.

• Recycle as much as you can at home. If you have a kerbside collection, use it!