



A whirlwind tour of issues relating to packaging

The figures

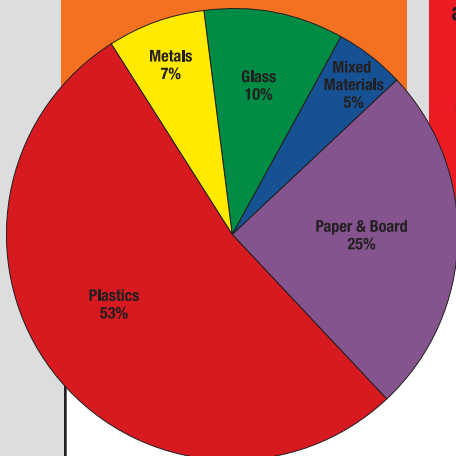
In 2001, the UK produced an estimated 9.3 million tonnes of waste packaging. Of this, 5.1 million tonnes came from households and the remaining 4.2 million tonnes came from commercial and industrial sources.

About a quarter of the waste in the average household bin is packaging waste, and food and drink packaging represents 70% of this.

Packaging materials use large quantities of the world's natural resources and currently account for around 5% of landfill deposits.

The UK is aiming to recycle just over one quarter of packaging – the minimum allowed under European law.

percentage of goods packaged in different materials



The issues

Demands on packaging are high. It should be

- consumer friendly to satisfy the consumers
- product friendly to protect the content
- environmentally friendly when manufactured or disposed of.

Packaging can be divided into three broad categories:

- Primary packaging is the wrapping or containers handled by the consumer.
- Secondary packaging is the term used to describe larger cases or boxes that are used to group quantities of primary packaged goods for distribution and for display in shops.
- Transit packaging refers to the wooden pallets, board and plastic wrapping and containers that are used to collate the groups into larger loads for transport, which facilitates loading and unloading of goods.



Without packaging a great proportion of our foodstuffs would have a shorter shelf life and would not reach the consumer in a fit condition.

Mixed material packaging is often more resource and energy efficient than single material packaging but combining materials makes recycling difficult.

For example, drinks cartons can consist of 75% paper, 20% polyethylene and 5% aluminum foil but there is currently only one facility in the UK able to separate these materials for recycling.

The politics

In 1994 member states of the European Commission reached an agreement on a directive to reduce the amount of packaging waste. The European Directive on Packaging and Packaging Waste requires member states to

- reduce the amount of packaging waste for final disposal
- achieve certain packaging waste recovery and recycling targets
- ensure that packaging meets certain essential requirements.

The solutions

The best sort of packaging is that which can be used a number of times, such as pallets, reusable plastic crates, cardboard or wooden boxes, and milk bottles.

We can all reduce the impact of packaging waste by

- buying products with less packaging or packaging that can be easily recycled
- buying milk in returnable bottles
- going refillable – products from printing ink to cleaning fluids are available in refillable containers
- buying products made from recycled packaging materials
- disposing of waste packaging thoughtfully by recycling or composting
- buying non-perishable goods in bulk.

Take action

Organise a waste free lunch at school to raise awareness of over-packaging and to emphasise the value of reuse. Make posters to advertise the day with illustrations of a wasteful and waste free lunch. Hold the event as a competition between classes and award prizes to the class that generates the least amount of rubbish from their lunch.



Green lunchbox

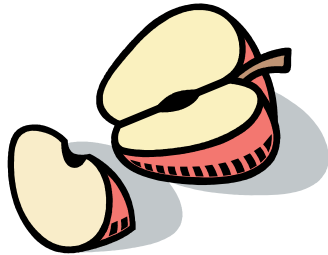
If you bring lunch, snacks or drinks into school you can try and make those choices healthy and waste free. This activity will help you decide what to put into your lunchbox.

What to do

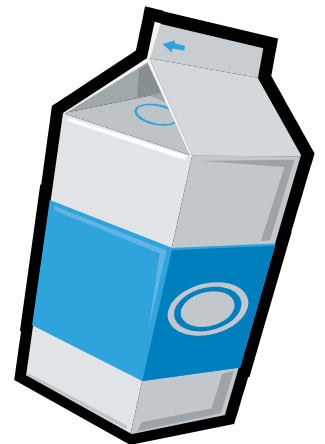
- Draw a food pyramid based on the one below, with a recycling bin on one side and a rubbish bin on the other.
 - Draw the pictures of the different types of food below and cut them out. You can colour them in too, if you have time.
 - On the food pyramid there are 4 categories – can you put the pictures of the food into the correct category?
 - Now look at the packaging that some of the food comes in – can any of that packaging be recycled? Can you recycle this at school or would you take it home to be recycled? If you can do either of these put the picture on the recycling bin.
- Which packaging will end up in the rubbish bin? Put those pictures onto the rubbish bin.
 - The food left on your food pyramid should have no packaging, will give you a healthy balanced diet and will create a waste free lunch.
 - Why do you think you have more of some types of food and less of others?
 - Use your pyramid and pictures to make a poster for the rest of your school – help all of your school to learn how to be healthy and waste free!

Draw pictures of these types of food

- handful of nuts
- pot of yoghurt
- packet of cheese snacks
- chunk of cheese
- milk drink carton
- foil wrapped cheese triangle
- hot dog
- packet of crisps
- hard boiled egg in its shell
- chocolate biscuit in a packet
- homemade cookie
- apple



- banana
- carrot sticks
- cherry tomatoes
- packet of 'fruit winders'
- cut up apple in a bag
- chunk of cucumber
- sandwich in a plastic packet
- sandwich in a lunch box
- pasta salad in lunch box
- rice salad in lunch box
- jacket potato
- homemade muesli bar



Put each type of food into the correct category

The food pyramid has 4 sections

1. Fatty and sugary foods – fats, oils and sweets
2. Protein – dairy, meat, fish, beans, eggs, nuts & seeds
3. Vitamins, minerals & fibre – fruit and vegetables
4. Starchy carbohydrates – bread, cereals, rice and pasta

1
fats and sugars

2
protein

3
vitamins, minerals and fibre

4
starchy carbohydrates

Will the packaging go in the rubbish bin?

Can you recycle the packaging?

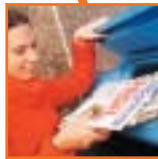


Closing the loop

Recycling does not immediately occur when we drop a can, bottle or newspaper in the recycling bin, it has only been recycled when that material is reprocessed, used to manufacture a new product and then bought by us. We call this 'closing the loop'.



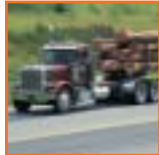
If you buy recycled paper you are closing the recycling loop.



If you simply throw away your paper, the valuable resources and energy used to make it are lost forever.



At the paper mill recycled paper is cleaned and made into new paper sheets



Closing the loop means that we need to input less and less new raw material into the cycle.

What are the benefits of making and buying recycled?

For the environment

- Using recycled materials means that resources that could be used again are not just thrown away after their first use. The vast majority of resources used to manufacture products cannot be replaced and so will eventually run out, these are called non-renewable resources.
- Recycling materials means that they do not need to be disposed of in landfill sites or by incineration, both of which have environmental consequences.
- If we recycle instead of throwing away, fewer new materials need to be quarried or mined and fewer plantations need to be grown to make new things. Many parts of the world have already been damaged by mining and quarrying, which destroy the natural environment and wildlife habitats and may cause environmental and health problems for local people.
- Making products from recycled materials uses less energy than making them from the raw material. For example, making aluminium cans from old ones uses only one twentieth of the energy needed to make them from raw materials.

- Recycling materials results in less pollution than making them from new. Recycling old glass bottles, can cut pollution by up to 20% and reduce the demand for water by half. Making bags from recycled polythene rather than raw materials produces only a third of the sulphur dioxide and half of the nitrous oxide as well as only using one-eighth as much water.

For manufacturers

- It is usually cheaper to recycle old materials than to purchase new raw materials. This is often because recycled materials may be available locally whereas new raw materials may have to be transported over long distances, often from overseas.
- Using recycled materials can also make a manufacturer appear more environmentally friendly and socially responsible, persuading some consumers to purchase items from that manufacturer rather than another.

For consumers

- The more people that buy recycled, the more the market for recycled products is stimulated. Over time, this should result in falling costs for items made from recycled materials.
- Buying recycled gives consumers a chance to 'do their bit' for the environment.
- Buying items made from recycled materials may make consumers more aware of the way in which recycling operates.

Are you a green consumer?

You may not be aware of having bought anything made from recycled materials. If so, think again! All of these can be made from recycled materials.

- Newspapers – approximately 65% of the U.K.'s local and national newspapers are printed on recycled paper.
- Anything in a glass bottle – In the U.K. bottles and jars, may be made of as much as 90% recycled material, although the average is much lower at around 25%.
- Drinks cans – nearly 60% of the aluminium used in the U.K. has been previously recycled.
- Fleeces, gloves or winter hats – plastic bottles can be recycled as fleece material to make these warm items of clothing

Activity – fill the house with rubbish

The range of products made from recycled materials is surprisingly wide and is also constantly changing and expanding. The best way to keep up with this is by using the internet to look for these products.

Make use of the internet to find at least one recycled product that could be used in each of the following areas of a house:

- kitchen
- living room and/or dining room
- child's bedroom or playroom
- bathroom and/or toilet
- home office
- garden

Here is a list of useful websites to start you off

- www.recycledproducts.org.uk
- www.greenstat.co.uk
- www.recyclenow.com
- www.cutouts.net
- www.remarkable.co.uk
- www.naturalcollection.com

More can be found by typing 'recycled products' (or similar) into a search engine.

Recycle symbols

Packaging often bears symbols that will help you decide if they are good for the environment. Some of these symbols tell you if a material can be recycled, while others tell you the recycled content.

metals

Most beverage and food cans can be recycled. Look out for these symbols



cardboard

This symbol, called the Mobius loop, is found most commonly on cardboard and tells you that the card can be recycled. If there is a percentage in the middle of the symbol it denotes what amount of the cardboard is made from recycled material.



plastics

This small triangle with a number, and often some letters, is found on plastic packaging and tells you what type of plastic the item is made from. For example the number 3 denotes PVC or Polyvinyl chloride. Try and buy plastics that can be recycled by your local recycling facilities.



glass

Whilst most glass containers are recyclable, this symbol reminds consumers to recycle glass jars and bottles, either at bottle banks or, where available, through kerbside collection schemes.



green dot

The German Green Dot symbol is often found on packaging and means that the manufacturer has paid a fee towards the packaging recovery system in Germany.



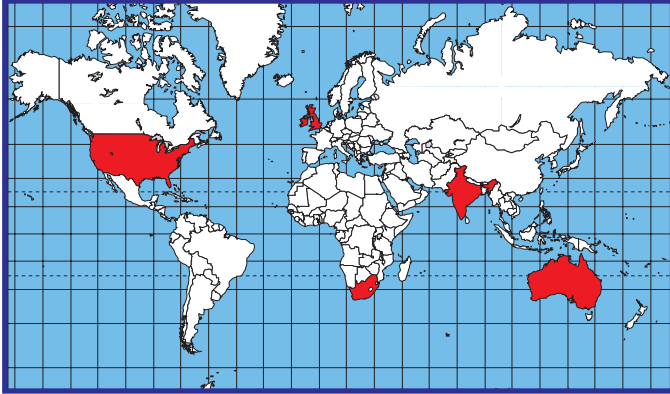
eco label

The European Eco-label is awarded to products that meet a set of stringent environmental tests. The tests assess all aspects of a product's life, often including packaging. About 400 products – from washing machines to footwear – currently carry the label.





Plastic bags – a world view



Since plastic shopping bags were first used in 1957 in N. America, they have become one of the most commonly used types of packaging around the world. In Britain we now use approximately 8 billion plastic bags a year, equivalent to 133 per person. Tied end to end they would go around the earth eight times! With so many plastic bags being produced it is important to understand the impact they have on the environment. A plastic bag could take up to 1000 years to break down naturally when it is thrown away, though no one is really sure because plastic has not been around long enough to tell.



The plastic bags we use in Britain come from as far away as factories in Malaysia, Thailand and China. So why are plastic bags a problem and what are different countries doing around the world to solve it?

South Africa

Until recently, in South Africa the plastic carrier bag had become known as the “national flower” because the bags littered the streets in such abundance and were frequently blown into hedges and trees. This was despite the innovative use of discarded bags by some South Africans to weave them into new items such as purses, hats and scrubbing brushes.

The government decided to put an end to the litter problem and put a complete ban on the flimsy plastic bag. It is now illegal for retailers to hand out plastic bags and if caught they face a fine of 100,000 rand or 10 years in prison! Shoppers now need to bring their own shopping bags or pay for thick reusable ones.

Australia

Australian environment ministers are concerned about the harm discarded plastic bags cause to marine life when they end up in the rivers and sea. The World Wildlife Fund for Nature estimates that more than 100,000 whales, turtles, seals and birds die through suffocation, entanglement and ingestion of plastic bags.



The government has set Australians a goal to reduce plastic bag consumption by 50% by the end of 2004.

Ireland

Since the beginning of March 2002 shoppers in Ireland have been charged a 9 pence tax on plastic bags to encourage them to use their own shopping bags. Superquinn, one of the supermarket chains in Ireland, says that the number of plastic bags they now distribute has dropped by 97.5%.

Other places around the world

Bangladesh have put a complete ban on plastic bags after research showed that they could have contributed towards major floods in the country between 1988 and 1998. The problem was caused by discarded plastic bags clogging up the drainage system.

In **India** cows often mistake plastic bags for food, this can cause serious harm and some cows die of starvation or choking.

Plastic bags are even big in **North America**, despite Hollywood films featuring people leaving the supermarket overburdened with paper bags, four out of five grocery bags in North America are made from plastic.



UK

At the moment shoppers in Britain are given plastic bags free of charge, but will Britain follow other countries and start to charge people for plastic bags? A Mori poll showed that 63% of British people would be prepared to pay 10 pence tax on every plastic bag.

One simple way to cut down on the amount of plastic bags you consume is to carry with you a reusable shopping bag. Whether this is an old sturdy carrier bag or a cotton shopping bag, it means you won't pick up unwanted plastic bags every time you visit a shop.



Source: <http://news.bbc.co.uk/1/hi/uk/1974750.stm> www.cleanup.com.au



Recyclezone

This website not only looks good but is also one of the best resources for teachers and children alike, with lots of information and activities on waste, recycling and sustainable resource use. The kids sections includes interactive games such as the Rubbish Challenge and the Virtual School, while the teachers section gives lots of advice and ideas for bringing waste education into the classroom.

www.recyclezone.org.uk



Waste Online

This website contains mountains of useful information on a variety of waste issues. The direct web link below will take you to a valuable resource sheet that not only provides comprehensive facts and figures but also considers the environmental impact of packaging as a whole.

www.wasteonline.org.uk/resources/InformationSheets/Packaging.htm

Friendly Packaging

This website aims to discuss and investigate packaging of the future. The site is well designed and simple to use and would therefore work as a useful research tool for schools. There is lots of information provided and is well worth a look.

www.friendlypackaging.org.uk

British Glass

A fun website containing lots of interesting sections used to promote the recycling of glass. Children will be able to discover how glass is formed, discover some 'funky facts' and test themselves on the history of

glass time line. Did you know it was as early as 30 BC they discovered how to blow glass into different shapes?

www.recyclingglass.co.uk



Alupro

This is the home site of the UK Aluminium Packaging Recycling Organisation. It is a simple to use and attractive site dedicated to promoting the benefits and environmental effects of recycling aluminium cans. The education section of the site provides information about setting up school projects with added lesson plans and corresponding teacher notes to boot!

www.alufoil.co.uk

Environmental Information Exchange

This is a good teacher's resource site. Follow clear and simple icons to information that suggests ways to manage waste including waste packaging.

www.brookes.ac.uk/eie/index.htm

The Industry Council for Packaging and the Environment

INCPEN is a non profit organisation which focuses on the use of packaging and its overall environmental impact. The education section of the site contains a large section of fact sheets covering varying aspects of packaging.

www.incpen.org



Steel Can Recycling

Find lots of information about the use of steel in packaging but also consider the history of steel can recycling. The website also offers a free curriculum pack containing a range of educational materials.

www.scrib.org



Ollie Recycles

A very useful, pupil friendly website covering all aspects of recycling. It contains a section of simple facts and figures about recycled steel packaging.

www.ollierecycles.com/uk/html/corus.html

Recycled Products Guide

Not sure where to buy recycled packaging? There are loads of ideas and contact addresses to be found on this site.

www.recycledproducts.org.uk

It's out there on the internet – recycled art

One great way of saving money and resources is using old packaging instead of new materials for arts and crafts projects. This is certainly nothing new, as anyone who has watched Blue Peter over the years can testify! Increasingly, professional artists are using recycled materials, including packaging, to make their art.

Aluminous publishing is an American company that specialises in making things from aluminium drinks cans – the fantastic wreath and bells on our cover is just one of their brilliant designs. They also have a really interesting links page to other websites around the world using recycled materials. Prepare to be amazed by what artists are making from the materials some people think of as just rubbish. This includes UK designer Anna C. Roebuck who has developed her own unique method of turning everyday plastic shopping bags into beautiful objects including screens, jewellery and 'lightpieces'.

www.aluminouspublishing.com/recycled_art.php

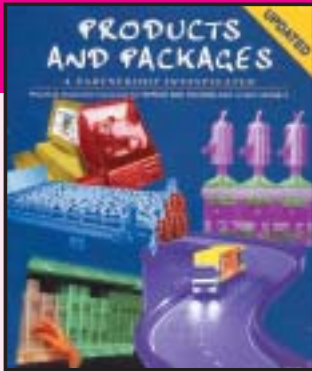
www.bags2riches.co.uk



Anna Roebuck with lampshades made from recycled plastic shopping bags

TEACHERS' RESOURCES

Products and Packages



Every issue we review an education resource that teachers can use in the classroom. Here we take a look at **Products and Packages**, an education pack produced by the Industry Council for Packaging and the Environment (INCPEN).

The audience

Products and Packages – key stage 3 is just one of the education materials produced by INCPEN for use by teachers. The resource is aimed at key stage 3 pupils studying design and technology. Many areas of this curriculum can be taught through packaging by looking at the wide range of functions in taking a product from production to the point of consumption. Similarly, packaging uses high tech manufacturing techniques and a wide range of design criteria.

The layout

The resource comes as a folder containing an easy to photocopy book of activity sheets, a set of colourful case studies, and a pamphlet containing teacher's notes. The book of activity sheets contains 12 practical tasks including hands on skills, experimentation and research. These are laid out clearly and include good diagrams and pictures.

The case studies detail different products such as televisions, garden peas, aspirins and washing up liquid. They consider the special requirements that each different product has of the packaging used to transport and display it. There are sections on the design and manufacture of packaging and finally a section on how the packaging can be disposed of. Sadly, this only provides a brief discussion of recycling and does not ask children to think of ways to use less packaging. The case studies are well illustrated with colour photographs. Finally, there are teacher's notes explaining how to get the most from the pack and links with the national curriculum.

Curriculum links

INCPEN has produced this resource in cooperation with the University of Salford Technology Education Development Unit, and it is obvious that a lot of thought has gone in to meeting the curriculum requirements. The pack is useful for teaching the design and technology curriculum in England and Wales, and for supporting the key features of 5-14 environmental studies curriculum in technology, in Scotland. INCPEN also produce cross-curricular education resources on packaging and managing waste.

Overall, this is a well designed education pack. One criticism of it is that it doesn't promote the issue of waste reduction with regard to packaging waste.

To obtain a copy of any of these resources visit www.incpen.org.uk

Dates for your diary

24 November – 5 December

National Tree Week is the Tree Council's festival to mark the start of the tree planting season, and a nationwide celebration of trees and woods. Across the country there will be lots of opportunities to plant trees, or to take part in events, walks, talks, songs, story-telling and tree dressing. www.treecouncil.org.uk

9 December

Waste Watch's annual seminar in London is set to start tongues wagging on the subject of sustainable consumption. *Possession Obsession* speakers will address the question of whether the 'spend, spend, spend' culture really makes us happier, and whether the environment can withstand the pressure. www.wastewatch.org.uk



25 December

Merry Christmas from everyone at Waste Watch! Give a present to the planet and make sure you enjoy a green yuletide by following the tips on our Christmas information sheet. You can download it from our online database. www.wasteonline.org.uk

1 January 2005

Happy new year! 2005 marks the start of the UN decade for education for sustainable development. Over the next 10 years the work we do will be at the forefront of efforts to improve sustainability. We can all make a difference! www.unesco.org

4 January 2005

The Christmas Card Recycling Scheme is an excellent way of cutting down on the waste associated with the festive season. During January you can drop unwanted cards into special bins provided in high street branches of WHSmith or Tesco supermarkets. Proceeds will help the Woodland Trust protect and plant trees around the UK. www.woodland-trust.org.uk

