

# recycle at school



**Practical toolkit for teachers**

## [www.westernriverside.org.uk](http://www.westernriverside.org.uk)

Recycle Western Riverside is a Western Riverside Waste Authority five-year initiative within the London boroughs of Hammersmith & Fulham, Lambeth, Wandsworth and the Royal Borough of Kensington and Chelsea. The campaign aims to increase recycling, reduce rubbish produced and encourage the purchase of recycled products. Waste Watch delivers communication and community education activities and London Remade delivers market development, green procurement and technical support services. The campaign is funded by Cory Environmental through the Landfill Tax Credit Scheme.



### **Foreword from Chairman Councillor Timothy Coleridge**

Since the Recycle Western Riverside programme began in 2002, our officers have worked intensively with nearly 100 primary and secondary schools and trained as many teachers. As a result, the programme has managed to reduce waste by over 50% in participating schools.

As we work with more and more schools it is harder, with the limited education resources, to provide a similar level of support for all these schools. This is why a new action toolkit has been produced to help you carry forward this worthwhile education programme.

The toolkit is full of useful and fun projects that will enable pupils to contribute towards sustainable development and good citizenship. The toolkit will also help you to save costs on materials and waste disposal.

I know that good habits learnt when we are young stay with us for life. So with your help we can make sure that future generations are better recyclers than the ones before them!

Your effort and leadership will make all the difference. I hope you enjoy the activities - they are extremely varied and will teach pupils a range of skills that are relevant to the National Curriculum.

Good luck and thank you for your contribution!

#### **Councillor Timothy Coleridge**

Chairman

Western Riverside Waste Authority

## Recycle Western Riverside practical toolkit for teachers

The Recycle Western Riverside (RWR) education programme, which operates in the London boroughs of Hammersmith & Fulham, Lambeth, Wandsworth and the Royal Borough of Kensington and Chelsea, has been modelled on Waste Watch's own Schools Waste Action Club (SWAC). The programme, which began in September 2002, runs for five years. It is part of the Recycle Western Riverside public awareness campaign to encourage waste reduction and recycling as well as buying more recycled products. Participating schools sign up to a School Challenge and the Mayor's Green Procurement Code which encourages schools to buy recycled. Since the programme started it has:

- worked with over 100 schools across four inner London boroughs;
- run more than 400 activities, with 98% of activities rated "good" or "excellent" by teaching staff;
- run six teacher training sessions, training over 100 teachers on how to implement environmental initiatives; and
- reduced waste by over 50% in participating schools.

### How to use this toolkit

This toolkit is designed to provide teachers with the knowledge and skills to implement waste reduction and recycling in their school. The toolkit has three sections.

**Section A** contains an introduction and overview of waste issues in the UK and a programme of core activities which will assist you in designing a waste reduction action plan relevant for your own school.

**Section B** provides ideas and guidelines on how to implement your resolutions, covering: paper, food and green waste; packaging; and green procurement.

**Section C** suggests ways of sustaining action in school and implementing waste reduction and recycling as part of a whole-school environmental policy. Details of local contact information and further resources are also included.

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## Why work on waste reduction at school?

This toolkit is designed to support primary and secondary teachers in implementing a structured waste education programme, linked directly to national curriculum requirements. It guides pupils and staff through an introduction to the issues of rubbish, a waste audit that analyses the school's existing waste management, and the production of an action plan to minimise waste. The activities are linked to practical waste reduction initiatives, tailored specifically to the needs of different age groups and use a pupil-centred approach. It has been developed with input from teachers, local education authorities and waste departments. Using this programme schools have managed to reduce their waste going to disposal by an average of 50%, and some as high as 90%. Schools can decide that one class or year group should take overall responsibility, or that it should be managed by the School Council or Environment Club. A series of local school case studies have been provided to illustrate how schools have tackled specific waste issues.

### This toolkit will help you to:

- Deliver the National Curriculum across a wide range of subject areas and themes, including Education for Sustainable Development (ESD) and Citizenship in a real-life context.
- Make real and measurable reductions in your school's waste.
- Develop pupils' teamwork, consultation and decision-making skills.
- Encourage social responsibility and global citizenship in the school and wider community.
- Develop school links with parents, local community groups and industry.
- Reduce costs on materials and waste disposal.

## Waste and the National Curriculum

The toolkit provides a real-life context in which to deliver the National Curriculum across a wide range of subject areas and themes, including the cross-curricular topics of Citizenship and ESD, and individual subject areas, particularly Geography, Science, Maths, Design and Technology and ICT. The tables on page 2 outline the main subject and cross-curricular links for each activity.

### Citizenship, Education for Sustainable Development (ESD) and Healthy Schools Standard

Examining waste issues in school provides a topic focus in which to develop citizenship, particularly aspects of social and moral responsibility and community involvement. It does this through raising

awareness of waste issues and providing pupils with opportunities to take on roles and responsibilities which develop their decision-making, teamwork and communication skills. Waste issues can also help meet the seven key concepts of ESD by looking at how a school, through its resource use, can become more sustainable. There are several opportunities for linking work through three of the key areas of the Healthy School Standard targets: Citizenship; PSHE; and healthy eating. This can be done through, for example, a waste-free lunch event (page 28).

**Section A** The full programme of activities in section A helps deliver the Geography and Citizenship curriculum and meet the requirements of QCA Geography Unit 8 at primary level and QCA Citizenship Units 17, 21 and 12 at secondary level. Where other QCA units link to specific activities they have been identified in the table below.

Activity	Page number	Subject	Learning objectives	QCA	National Curriculum	Cross-curricular
Waste audit planning	8	Literacy Geography Science	Identify areas in school where unnecessary waste is created. Make a prediction about which materials are wasted most in school.	Science Unit 5-6H	En 1, Gg 2, Gg 3 Sc 1	ESD
Questionnaire surveys	9	Literacy Geography	Determine how much the school already knows about the 3 Rs: reduce, reuse and recycle. Determine how much the school is doing about its waste.	Unit 1 ICT Unit 4D	En 1, Gg 1	Citizenship, ICT, PSHE, ESD
Classification of waste - sorting and weighing	10	Science Numeracy	Know which areas of the school generate waste, how much and what is generated. Make careful measurements of school waste and record the data accurately.	Science Unit 1C Unit 5-6H	Ma 3, Sc 1, Sc 3	Geography, ESD
Calculations	11	Numeracy	Use mental and written calculations to work out the annual and weekly totals and show the results graphically. Use the data collected to draw conclusions about the school's waste.	ICT Unit 4D (yr 4) Unit 5D (yr 5)	Ma 2, Ma 4	ICT, ESD
Developing an action plan	12	Literacy Geography Citizenship	Know and understand the words reduce, reuse and recycle. Suggest ways to follow the 3Rs in school. Record ideas and organise them into action.	Citizenship KS 3 Unit 17, Unit 21	Gg 1, Gg 5, Gg 6, En 1, Ci 1, Ci 2, Ci 3	ICT, PSHE, ESD, Healthy Schools

**Section B** The activities in section B can be undertaken together or as individual activities, and each can be adapted to suit the needs of both primary and secondary schools. They are designed to increase pupil knowledge about different materials and waste issues.

Activity	Page number	Subject	Learning objectives	QCA	National Curriculum	Cross-curricular
Make your own recycled paper	20	Geography Science	Demonstrate the process of recycling paper. Explain why it is better to recycle paper than to make it from virgin materials. Explain why recycling is a reversible change.	Citizenship KS 4 Unit 12	Gg 5, Gg 6 Sc 2, Sc 3	Literacy, Citizenship, ESD, D&T
Make a mini compost bin	25	Science Geography	List at least three materials that are suitable for composting. Understand why composting is better than landfill. Describe the role of mini-beasts and micro-organisms, such as bacteria and fungi, in composting.	Science Unit 3C (yr 3) Geog Unit 5-6H (yr 5/6)	Sc 1, Sc 2 Gg 5, Gg 6	Citizenship, ESD
Design a waste-free lunch	30	Geography Science Literacy, D&T	Understand that many snack foods are heavily packaged. Work in groups to share ideas for planning a waste-free lunch and present them to the class.	D&T Unit 3A (yr 3)	En 1, Gg 1, Gg 5, Sc 2, Sc 3	Citizenship, PSHE, ESD, Healthy Schools

# Section A

Reducing waste -  
practical steps to prepare your school



“We will be using the Recycle at School programme as part of our Year 7 Science scheme of work”

St Thomas More School  
The Royal Borough of Kensington and Chelsea

## 1. An Introduction to waste

Waste or rubbish is anything that we think we no longer have a use for and so throw away. Almost everything we do at home, at work and at school creates waste. As a society we are currently producing more waste than ever before. Each UK household produces over one tonne of rubbish every year, amounting to about 31 million tonnes for the whole of the UK.<sup>1</sup>

This amount of rubbish is enough to fill Lake Windermere (the largest lake in England) one and a half times, or three and a half million double-decker buses!<sup>2</sup>



The environmental impacts of waste are not just associated with their disposal. The processing, manufacture and transport of materials before they end up as waste uses energy and resources and creates pollution. On average ten tonnes of resources are used for every one tonne of product consumed.<sup>3</sup>

### Consumption

All of the items we buy and use are made from resources. As societies have developed they have demanded more goods and services. The Earth's natural resources are being extracted at faster and faster rates to meet the increased levels of consumption.

Many of the resources that we use in manufacturing products and providing services, such as fossil fuels like oil and coal, cannot be replaced. They are non-renewable and lead to a loss of natural resources. Extracting new resources, manufacturing and distributing goods, all produce waste and can cause environmental damage.

#### Information sources

<sup>1</sup> [www.wastewatch.org.uk](http://www.wastewatch.org.uk)

<sup>2</sup> <http://www.ilec.or.jp/database/eur/eur-11.html>

<sup>3</sup> Great Britain Plc: *The Environmental Balance Sheet*, Biffa 1997.

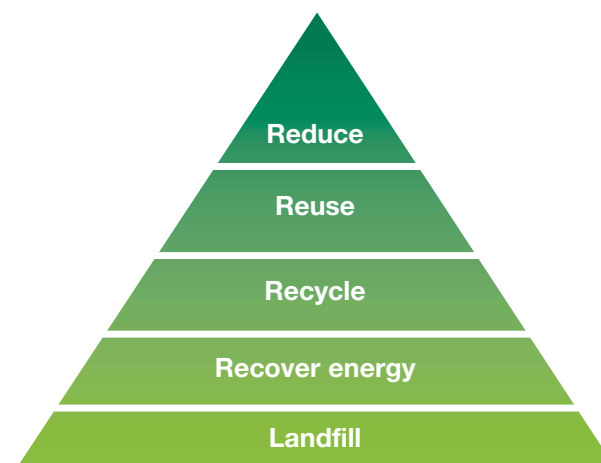
<sup>4</sup> <http://www.compostnetwork.info/countries/uk.htm>

A lot of this waste ends up in the bin, often after a very short life-span (e.g. disposable coffee cups). The era of mass production has made products cheaper and, as a consequence, if they break they tend to be replaced rather than repaired. This all means more waste which we then have to get rid of. In 2001, 78% of waste in the UK was landfilled, 8% incinerated and only 14% recycled or composted.<sup>4</sup>

There remains great inequality and, as a result, huge differences in consumption patterns across the globe. The more developed nations use huge amounts of the Earth's resources compared with the less developed countries. This is unsustainable - in other words, it cannot continue indefinitely. When something is thrown away we are failing to see it as a resource. However, people are increasingly realising that it makes economic sense, as well as environmental sense, to use waste again rather than just throw it away. We need to think about how we can use fewer resources, make products last longer and find alternatives to throwing items away. We need to see waste as a resource.

### The waste hierarchy

A comparison of the environmental impacts of the different options for dealing with our waste gives us a 'waste hierarchy' - those towards the top of the list being more desirable than those towards the bottom. The problem we have today is that more of our rubbish is dealt with at the bottom end (landfill) of the hierarchy than the top (reduce).



The challenge is to change our attitudes and our practices so that much more of our waste is dealt with by options towards the top of the hierarchy.

**Reduce:** The best way of managing our waste is not to produce it in the first place - waste prevention. This is possible by thinking about reducing the amount of waste we produce, by cutting down on throw-away products and excess packaging, and buying only what we really need. Throughout this toolkit there are ideas for reducing waste at school and at home.

**Reuse:** Using refillable or returnable containers, repairing or refurbishing broken and worn items, extends their life and reduces the need to buy new goods.

**Recycle:** When neither reducing or reusing is possible, waste can be recycled. Recycling is the re-manufacture of waste into new products. Recycling does use energy and will never fully replace the need for virgin raw materials. But, it does use less energy, reduces the demand for virgin raw materials, makes more efficient use of existing resources, and reduces the amount of waste which is landfilled or incinerated. This all helps to reduce the environmental impact of waste.

**Recover energy:** Waste that is not reused or recycled can be burnt in an incinerator. Some incinerators use the heat produced for generating electricity or for district heating, and are known as Energy from Waste Plants (EWP). Incineration with energy recovery makes some use of the waste but there are still problems associated with this method of disposal, not least that once burnt these resources are lost and cannot be used again.



Mucking Landfill Site

**Landfill:** Historically in the UK waste has been buried in the ground known as 'landfill sites'. Electricity can be generated from the methane produced when waste breaks down in landfill. However, we are now running out of space in which to bury the waste and there are a number of environmental problems associated with landfill:

- 🔄 Leachate - a toxic cocktail of chemicals formed within landfill sites, which if it escapes can pollute groundwater and surrounding soil. Modern sites are capped and lined to prevent pollution leaking into the surrounding water table, but leakage can still occur.
- 🔄 Methane - generated when biodegradable waste rots without oxygen, methane is a greenhouse gas and contributes to global warming. If methane is not converted into electricity, it can contribute to climate change.

Whilst landfill and incineration may remain a final option for some of our waste, much more can be done to reduce waste at source, reuse materials and recycle. The three Rs - reduce, reuse, recycle - should be our top priority in reducing waste.

### Activity 1: An introduction to waste

- 🔄 Discuss with your pupils the items that they put into the bin during the day and encourage them to identify the types of materials they are made of. Use samples as appropriate.
- 🔄 Discuss the percentage composition of an average school dustbin and how this might compare to the type of waste thrown away at home (see average school bin on page 7).
- 🔄 Discuss what happens when the waste goes in the bin, in relation to the waste collection system in your area. You will find this information in the sleeve at the back of this toolkit.
- 🔄 Research waste disposal options further and use the websites and resources listed on page 41.

## 2. Investigating waste at school

In 2005, Waste Watch conducted research into resource management of the UK education sector (schools, further and higher education institutions) and estimated that the sector disposes of 615,117 tonnes of waste annually.<sup>1</sup> The study also concluded that on average 21kg of waste is generated each year by every pupil in primary and secondary schools. Schools can play a vital role in contributing to the solutions of our national waste problem by taking action to put the three Rs into practice and by raising awareness and understanding of sustainable resource use.

### An average school bin

In both primary and secondary schools, paper and cardboard make up over 50% of the total waste-stream. The second most significant material group is food and green garden waste and the third is plastic. Plastic waste is most likely to be plastic bottles and lunch and snack packaging.

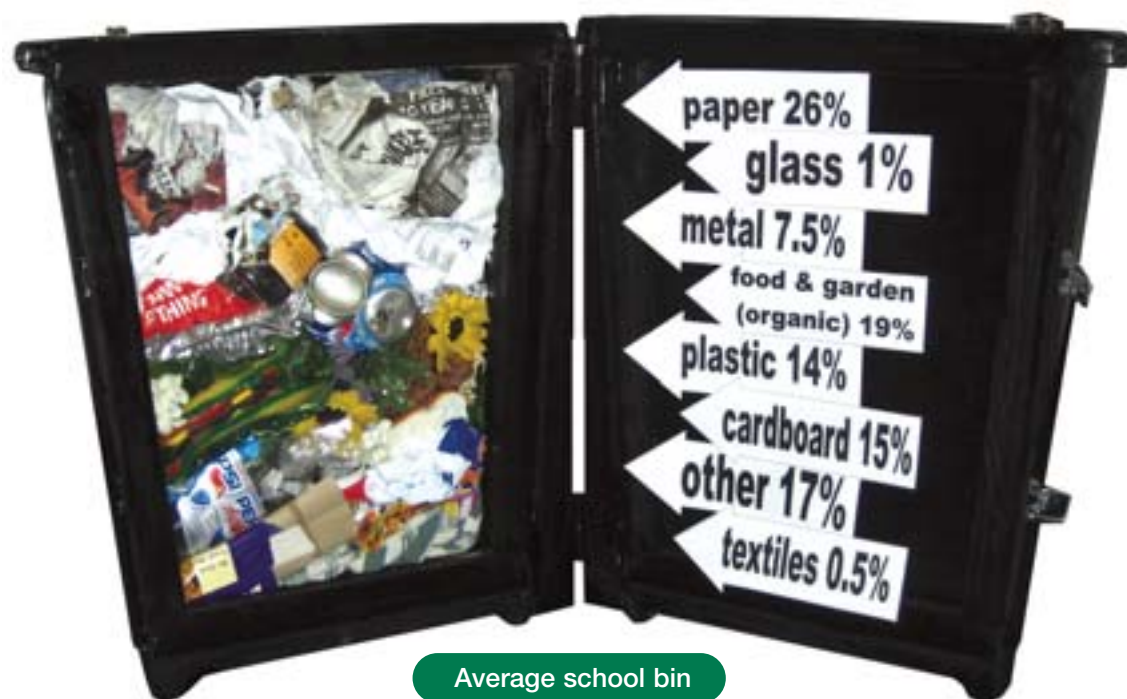
### Introduction to the waste audit

Before you take action, it is important that you have collected the necessary information about the existing waste management system in your school. Only when you have built up a picture of the types and quantities of waste produced and what happens to them, will you then be able to make informed decisions about reducing them.

The best way to find out what is in your school waste-stream is to physically sort and measure it by carrying out a waste audit. The waste audit is a practical data collection and analysis activity to identify the main waste materials and waste hot-spots within the school. This enables you to measure the waste you are looking at fairly accurately. Questionnaire surveys provide additional information about how the school waste management system operates.

The key questions you can expect to be answered from a waste audit include:

- 🕒 How much waste is produced?
- 🕒 Where is it coming from within the school?
- 🕒 What materials are in the waste-stream?
- 🕒 Who collects it from the school and how much does this cost?
- 🕒 Who is responsible for waste management and how is waste handled in the school?
- 🕒 How much waste reduction, reuse and recycling is already going on?
- 🕒 What opportunities are there for waste reduction, reuse and recycling and what are the associated cost-savings?



Average school bin

Information source  
<sup>1</sup> WasteWatch 2005

## Activity 2: Waste audit planning

### Learning objectives

- 🕒 Identify areas in school where unnecessary waste is created.
- 🕒 Make a prediction about which materials are wasted most in school.

### Subjects

Literacy  
Geography  
Science  
Citizenship

### QCA Links

Geog Unit 8 (yr 4)  
Citizenship  
Unit 17 (KS 3)

### NC Links

En 1, Gg 2, Gg 3,  
Sc 1, Ci 1, Ci 2,  
Ci 3, KS 2, Ci 5

First decide which parts of the school you wish to look at. In a large school it may not be practical to collect and measure the waste from every bin. Identify areas which you can group together and collect from a smaller representative sample (e.g. classroom or year group).

1. Through discussion, identify the location of all the bins in school including dinner bins, staff room bins and classroom bins. **Exclude any areas of hazardous or confidential waste.**
2. Allocate areas to pupil waste monitors. Pupils should collect waste from the designated areas over two to three days. Remember, the longer the sampling time, the better the accuracy. **Ensure that all pupils are wearing strong gloves and overalls** when they collect the rubbish bags. Keep the waste from each area in a separate labelled bag and store somewhere cool and dry until it is needed.
3. Inform the rest of the school: pupils, teachers, departmental heads, administration staff, site manager, caretakers, cleaners, canteen staff, and grounds maintenance staff. **Make sure that those who normally collect the waste are made aware of your plans.**
4. Predict and categorise the types of waste the school may produce from different locations. Which area do you think will create the most waste and which material will be wasted the most? Waste may vary at different times of the year.

### Alternative methods of data collection

Areas such as the medical room, canteen and sometimes the playground bins may contain waste materials that pose a health hazard. Alternative methods of collecting data such as tally surveys are more appropriate. Allocate groups responsible for this data collection and ask them to design a means of measuring and examining the waste collected in these areas - they need to assess the amount and type of waste. Questions to consider are:

- 🕒 What method(s) of data collection will you use? Can you obtain quantitative and qualitative data?
- 🕒 Over what time period will you carry out the data collection?
- 🕒 What health and safety precautions do you need to take? Could any of the waste be confidential?
- 🕒 Who do you need to inform or request permission from to carry out the survey?
- 🕒 What equipment do you need?

**Continued**  
**Activity 2:**  
**Waste audit planning**

**Kitchen waste**

If possible, request that the kitchen staff keep the putrescible food waste and packaging waste separate during the project. Allocate a pupil group to weigh and record the weight and volume of the putrescible kitchen waste at the end of each lunch break. The waste can then be thrown straight into the bin.

**School grounds waste**

School grounds waste can present a high-risk hazard, particularly in secondary schools. Assess the potential risk of sorting the playground waste, considering the possible content of hazardous waste (dog faeces, needles etc.) and putrescibles. School grounds waste will probably contain a high percentage of crisp and snack packets - this could be measured using an observational survey.

**Tuck shop waste**

Carry out a survey of the snacks available for sale in school and which are the most popular. Consider each type of snack in terms of the packaging.

**Vending machine waste**

Additional bins could be provided to collect waste specifically from the vending machines. This could be weighed separately during the audit.

**Extension activity**

Discuss how items entering the school could be seen as 'potential waste'. For example:

- 🕒 Office purchasing, particularly paper - is it recycled paper, how much is bought?
- 🕒 Canteen packaging - how is food packaged when it arrives at school?
- 🕒 Vending machines - do they promote disposable packaging?

**Activity 3: Questionnaire surveys**

**Learning objectives**

- 🕒 Determine how much the school already knows about the 3Rs: reduce, reuse and recycle.
- 🕒 Determine how much the school is doing about its waste.

**Subjects**

Literacy  
Geography  
ICT

**QCA Links**  
ICT 4D

**NC Links**  
En 1, Gg 1

To determine the current school waste management systems, questionnaire surveys have been provided to carry out further investigations. These can be found in the appendix. The questionnaires cover the following areas:

- 🕒 current school waste management;
- 🕒 school purchasing systems; and
- 🕒 reuse and recycling policies.

**Activity 4: Classification of waste, sorting and weighing**

**Learning objectives**

- 🕒 Know which areas of the school generate waste, how much is generated, and of what materials.
- 🕒 Make careful measurements of the school waste and record the data accurately.

**Subjects**

Science  
Numeracy

**QCA Links**

Science Unit 5  
6H (yrs 5/6)

**NC Links**

Ma 3, Sc 1, Sc 3

This activity is best carried out in the school hall or other large ventilated room. You will need: the labelled bags of collected waste; spring balances; large plastic sheets to sort the waste on; gloves; carrier bags and waste check sheet (page 53).

1. Place the waste from each area onto a different protective plastic mat and allocate a pupil group to each. **Ensure that every pupil has strong gloves and overalls on.**
2. Pupils should carefully empty the rubbish onto the plastic mat and then sort into different material types, e.g. 'plastic' or 'metals' for each source of waste as opposed to use e.g. 'sandwich packaging'. Make a note of any unusual or small items perhaps placing these in a residual category. If you know what types of paper can be recycled locally it may be worth separating these.
3. Each material type can then be put into carrier bags. By counting the carrier bags for each material an estimate of volume can be made. Record this information on the waste check sheet provided on page 53.
4. Using spring balances pupils should then weigh the bags of each material and again record their results on the waste check sheet.
5. Once the weighing is complete the bags of rubbish should be collected and disposed of.

**Safety: pupils must wear gloves for the full duration of this activity and must be made aware of the potential hazards of throwing waste or misbehaving during this activity**



Waste audit equipment

Waste audit equipment is available for loan from: [www.westernriverside.org.uk/atschool.php](http://www.westernriverside.org.uk/atschool.php)

## Activity 5: Calculations

### Learning objectives

- Use mental and written calculations to work out the annual and weekly totals and to show results as graphs.
- Use the data collected to draw conclusions about the school's waste.

**Subjects** Numeracy  
**ICT** A waste audit provides real data which can be analysed in a number of different ways and related to the predictions made at the planning stage (see activity 2, page 8). Calculations can be made manually or using a computer spreadsheet.

- QCA Links** **Area waste**  
**ICT Unit 4D** (yr 4)  
**ICT 5D** (yr 5)
- Each group should convert all figures into kilograms and then calculate their total area weight.
  - Calculate the total weight of waste from all the areas.
  - Repeat the above for volume (number of bags).
  - Calculate the percentage of the total for each area.

**NC Links**  
Ma 2, Ma 4

### Discuss with the pupils:

- Which area produced the most waste and why?
- Was it what you predicted?
- How much waste is produced per pupil?
- How much waste is produced every week for every school year?

### Types of waste

- Collect the weight of each different material type from each group.
- Calculate the total weight of each type of material.
- Repeat the above for volume.
- Calculate the percentage of the total for each material.

### Discuss with the pupils:

- Which material makes up the highest percentage of the school waste and why?
- Was it what you predicted?
- How does this compare to the average school composition of waste (see page 7)?

### Observation and sample surveys

- If you used a small sample area only, identify the number of similar areas within the school and multiply to give an estimate.
- Using the size of the external waste bins, the number of collections per week and the average fullness, estimate the total weekly waste production.

All pupil groups should present their results to the whole class or year group who will be affected by or involved in undertaking your school's waste reduction action plan. The information can be compiled into a report.

### Extension activities

- Draw graphs to represent the results.
- Use spreadsheet packages to draw graphs and analyse data.
- Comparison of data can be made over time if the waste audit is repeated. If a school waste reduction action plan is developed, a computer record of the waste data over time can assist in monitoring the success of the action plan.

## 3. Planning to take action

Once you have carried out your waste audit, you will have a much clearer idea of the waste management system in your school as well as the type and quantity of waste produced. You can now decide how best to reduce the amount sent for disposal. This section helps

you to design an action plan to reduce your school waste. By implementing their action plan to reduce waste, schools on the Recycle at School programme achieved an average reduction rate of 50% in their total waste sent to landfill.

## Activity 6: Developing an action plan

### Learning objectives

- Know and understand the words 'reduce', 'reuse' and 'recycle'.
- Suggest ways to follow the 3Rs in school.
- Record ideas and organise them into an action plan.

**Subjects** Literacy  
**Geography**  
**Citizenship**

**QCA Links**  
**Geog Unit 8 yr 4**  
**Citizenship**  
**Unit 17**  
**Unit 21 (KS 3)**

**NC Links**  
En 1, Gg 1,  
Gg 5, Gg 6, Ci 1,  
Ci 2, Ci 3

- Using the waste audit results, discuss as a class the three main material types found in school rubbish and where they are found. Discuss the meaning of reduce, reuse, recycle, and the need to do this in school, looking at the above materials.
- Agree overall aims, e.g. to reduce lunch packaging or to set up a paper recycling scheme.
- To prompt ideas you can divide the class into groups and ask each group to concentrate on one area of the school.
- Each group reports back their ideas to the class. Ideas are recorded on the board/overhead and a note is made if the same idea is repeated. Group similar ideas under each heading and decide if you need to delete any as impractical.
- To set action targets, use the ideas the class wants to follow up. For example, under the aim "to reduce lunch packaging", waste targets could include: to set up a compost scheme by the end of the year; to hold a waste-free lunch day once a term; to encourage fruit at break times (see Table 1 on page 13).
- Select which of the action targets the class or school wants to follow up and prioritise. Ensure that a measurable target and timescale is set for each. For their given action target each group must decide the following:  
**How?** Identify a series of activities that need to be undertaken to help reach the action target. This should include people who need to be consulted, means of advertising the ideas and how to evaluate whether or not they are achieving their target.  
**Who?** Who is responsible for completing each activity?  
**When?** Timescale for the activity, i.e. when does it need to be completed?
- Discuss the need to promote their ideas and action plan to the rest of the school and to get them involved (see page 37).

## Implementing the school waste action plan

Once devised, the action plan can be presented to the school council, governors or a waste action group set up by the school that includes staff and pupils from different year groups. The aim is for the whole school to take responsibility for its waste issues.

It is advisable to tackle one action at a time over a term or a year. If one year group is responsible for carrying out the action plan, it should allow for input from the new class the following year. It also makes it easier to implement.

As discussed in the 'waste hierarchy' on page 5, any good waste management strategy should seek to achieve a reduction of waste. Conscious of cost, few schools use more materials than they need to. However, there is always scope for waste reduction and reuse. Lunch packaging, which often includes plastic wrappers, plastic bottles and cartons, can often be reduced (for top tips see page 29).

The table below is a sample action plan that a school may adopt. The actions will be dependent on the waste audit results and action plan session.

**Table 1 Sample action plan**

Waste source	Responsibility	Action	Timeframe	Success indicators
Classroom paper	Teacher and pupil monitors	Scrap paper box in every classroom	By half term	More paper being reused before being recycled
Classroom paper	Teacher and pupil monitors	Paper recycling box in every classroom	By half term, then ongoing	No recyclable paper in the residual waste bins
Food and green waste	School Council	Establish compost system	By end of term, then to be used once a week	Reduced food and green waste in residual waste bins and finished compost for use in school garden
Lunch packaging	Year 6	Waste-free lunch event	Once a month	Less lunch packaging in residual waste bins

## Establishing a school recycling scheme

The materials in your school's waste stream which are generally the most suitable for recycling are: paper, cardboard, aluminium and steel cans and plastic bottles. Fruit waste can be composted on your school grounds. Some materials are valuable enough to warrant payment (e.g. aluminium) and some may just save on disposal costs (e.g. paper), but this often depends on the state of material markets which are notoriously volatile. Materials which are produced in smaller quantities may also have recycling schemes, e.g. printer cartridges.

You also need to know in advance what the potential for recycling in your area is. A recycling scheme should be separated into two parts. Firstly, make arrangements with the Council or a company to collect the materials and secondly organise the collection of material within the school.

## Making arrangements with collection companies

The local information included at the end of this toolkit tells you about recycling in your local area and who to contact. Contact information is given for your local council recycling officer. Check with your current waste collection contractor if they operate a recycling scheme which can be incorporated into your existing contract. If your current contract is due to be renewed in the near future, ask your recycling officer if there are any companies offering an integrated waste disposal and recycling service in your area. When contacting the contractor:

- 🔄 Check how frequently the material will be collected and if it is free of charge. If you do have to pay, the cost may be offset by the reduction in cost of your general waste.
- 🔄 You are likely to need an external container (e.g. recycling bank) to store the recyclable materials in before they are collected, which must be accommodated outside in an area with access for both school staff and collecting vehicles.
- 🔄 Ensure that a risk assessment has been carried out when locating the waste bins and recycling banks, taking into account the risk of fire and vandalism. The central storage area should be clean, dry, secure, safe from fire hazards and animals. The recyclable materials should be covered to protect their quality.

## Collecting recyclable material within the school

Setting up a recycling scheme also means you have to consider how the material is collected inside the school buildings and how it is transferred to your central recycling bank for collection by your recycling contractor.

You will therefore need to organise an internal collection system with separate bins to collect the material(s) for recycling.

- 🔄 The operator collecting the materials may provide internal bins or sacks. If you decide to purchase bins, a local business may sponsor these for you. Contacts for obtaining internal bins can be found in the local information. You can also make your own with help from the D&T department or by reusing and decorating cardboard boxes. Design

attractive signs or pictures to identify them or run a competition for the best design.

- 🔄 Consider where is best to place the recycling bins within the school. Do you want one in every room? Should they be next to the waste bin? This will depend on the material to be collected. If you are collecting paper, for example, then you probably need a bin in every room and don't forget the photocopier! For aluminium cans may only need recycling bins in the canteen next to vending machines and in play areas.
- 🔄 Who is going to oversee the scheme, collect the material from the internal bins and place in the main collection point? Do you want to record the amount of material sent for recycling?
- 🔄 Don't forget to advertise the scheme to the rest of the school. You could consider organising a poster design competition.

Section B (page 19) gives specific tips for establishing a paper recycling scheme and (page 23) for composting.

## Monitoring over time

It is important to introduce a system to monitor the amount of material you are recycling. As your recycling scheme becomes established and more efficient you may be able to get rid of some of the external general waste bins you have. The monitoring system should also help to ensure that the correct material is going into the central recycling banks and that recyclable material is not being thrown into the general waste bins.



Vehicle tipping paper for recycling

# Section B

Activities and top tips  
for waste reduction



“Children were really engaged and responsive. Looking forward to the next session”

St Paul's CE Primary School  
London Borough of Hammersmith & Fulham

## 1. Paper: Consumption and recycling

Computers, email and the internet have been heralded as the means to reduce our need for paper, yet globally paper consumption has more than tripled over the past 30 years.<sup>1</sup> Europe accounts for over a quarter of the global consumption of paper.<sup>2</sup> Newspapers, magazines and written advertising account for nearly 50% of domestic paper waste.<sup>3</sup>

In 2003, 1.1 million tonnes of household paper was collected in the UK for recycling. UK paper mills use a lot of recycled material in the paper they manufacture - about 68% - compared to only 47% in European mills.<sup>4</sup>

Recycling one tonne of paper, compared to producing one tonne of paper made with virgin wood fibres, saves:

- ♻️ about seven mature trees;<sup>5</sup>
- ♻️ 30,000 to 60,000 litres of water;<sup>6</sup>
- ♻️ 40% of the energy required to produce virgin paper,<sup>7</sup> which is enough energy to power an average three bedroom house for a whole year; and
- ♻️ 95% of air pollution.<sup>8</sup>



Children using internal paper bins for recycling

Paper can be recycled five times before the wood fibres become too weak and need to be replaced. Many products can be made from recycled paper including newspapers, magazines, printing paper, cardboard, tissues, toilet and kitchen rolls, and even loft insulation, paints and road surfaces.

More information on paper, including an instant expert guide, primary and secondary school resources and world view focus on the UK can be downloaded from:

[www.recyclezone.org.uk/tz\\_resources.aspx](http://www.recyclezone.org.uk/tz_resources.aspx)

### Take action to reduce paper waste at school

From your waste audit you will probably have found that paper forms a significant part of your school's waste stream (see Activity 4 on page 10). To reduce your school's paper waste you can:

1. Implement a policy to encourage reduction, reuse and recycling of paper. A number of initiatives which can be easily adopted in your school and classroom are outlined on page 19. The policy should include the use of recycled paper products. More information on buying recycled products can be found on page 32.
2. Monitor the success of your policy by implementing regular checks on quantities of paper used per person, purchasing of recycled paper products and using your new paper recycling scheme efficiently.

#### Information sources

- <sup>1</sup> [http://earthtrends.wri.org/features/view\\_feature.cfm?heme=6&fid=19](http://earthtrends.wri.org/features/view_feature.cfm?heme=6&fid=19)
- <sup>2</sup> <http://www.iied.org/>
- <sup>3</sup> [www.acrr.org/resourcities/recycling/recycling\\_did.htm](http://www.acrr.org/resourcities/recycling/recycling_did.htm)
- <sup>4</sup> [www.ppic.org.uk/info/factsheets/recovery.htm](http://www.ppic.org.uk/info/factsheets/recovery.htm)
- <sup>5</sup> calculation based on data from Axel Springer Verlag & UPM-Kimmene
- <sup>6</sup> Verband Deutscher Papierfabriken e.V, *Printing products and ecology*
- <sup>7</sup> [www.epa.gov/epaoswer/non-hw/muncpl/paper.htm](http://www.epa.gov/epaoswer/non-hw/muncpl/paper.htm)
- <sup>8</sup> [http://www.umass.edu/recycle/environmental\\_benefits.htm](http://www.umass.edu/recycle/environmental_benefits.htm)

## Case study 1

### Introducing a large-scale recycling scheme

In the London Borough of Wandsworth, ADT College joined the Recycle at School programme and, after carrying out an initial waste audit, a large proportion of its waste was found to be paper, card and plastic bottles. The college has worked tirelessly to implement and sustain a recycling scheme in the classrooms, offices and canteen. A year later a repeat waste audit showed a massive reduction of 70%, a fantastic achievement from such a large establishment. Setting up the recycling scheme is often the easy part, keeping the momentum going is the real challenge. With dedicated staff and pupils leading the way, a real difference is being made. ADT's Environment Group has been instrumental in keeping the scheme running and in the Recycling Awards, held this year for all schools currently on the Recycle at School programme, ADT College was rewarded for its continued efforts.



ADT College's Environment Group with their award

## Top tips: Paper

### Reduce

<b>General</b>	Only use what is needed. Maximise the use of black or white boards in the classroom to reduce the need for photocopying worksheets.
<b>Administration</b>	Re-format faxes to omit the cover sheet, or purchase a fax information stamp that can be used on the first page of faxes, so that fax cover sheets are not necessary. Create a memo binder for teachers to initial after reading rather than printing individual memo copies.
<b>White paper</b>	Use both sides of the paper. Ensure everyone knows how to photocopy on both sides. Set the printer to print on both sides as a default feature.
<b>Paper towels</b>	Only take one at a time, use measured towel dispensers or, where appropriate, replace paper towels with cloth or hand driers. Use a cloth for spillages or wiping down.

### Reuse

<b>Administration</b>	Make memo pads from used photocopy and computer paper. Replace self-sticking notes by clipping used paper to documents.
<b>White paper</b>	Have a well labelled scrap drawer or box in every room. Use the back of worksheets. Collect and staple scrap paper together to make a note pad. Shred down to use as animal bedding.
<b>Coloured paper</b>	Paper for displays, mounts or borders can be stored in a central location for everyone to use and save.
<b>Envelopes</b>	Cross out the address and postage, stick a label over it and reseal.
<b>Magazines</b>	Pass on to other people by introducing a magazine swapping system. Make a picture library - by cutting and filing pictures for use in Art, D&T etc. Use them to make collages.
<b>Newspapers</b>	Cover tables with newspapers for Art. Use for papier maché.
<b>Cardboard</b>	Reuse boxes for storage or collecting paper for recycling. Use in Art or D&T.
<b>Miscellaneous</b>	Coffee filters - use reusable filters (metal or cloth) in the staff room. Greetings cards - use pictures in art and to make crafts, bookmarks etc.

### Recycle

Tips on how to establish a recycling scheme in school are found in Section A on page 13. In the Western Riverside boroughs, paper and card are collected as part of a mixed recycling collection. This is explained in more detail in the borough information sheet in the sleeve at the back of this toolkit.

## Activity 7: Make your own recycled paper

### Learning objectives

- 🔄 Demonstrate the process of recycling paper.
- 🔄 Explain why it is better to recycle paper than to make it from virgin materials.
- 🔄 Explain why recycling is a reversible change.

### Subjects

Geography

Science

### QCA Links

Geog Unit 8  
(yr 4), Citizenship  
KS 3 Unit 17,  
Unit 21

### NC Links

Gg 5, Gg 6,  
Sc 2, Sc 3

### You will need:

- 🔄 shredded waste paper;
- 🔄 water;
- 🔄 a blender;
- 🔄 a deep tray or bowl;
- 🔄 two identical wooden frames (one covered in mesh);
- 🔄 a sponge;
- 🔄 absorbent cloths; and
- 🔄 old newspaper.

1. Collect old sheets of paper (white or newspaper) and shred into small pieces using a paper shredder, if available.
2. Put a handful of shredded paper into the blender and cover with water. Blend into a pulp.
3. To colour the paper you can add a little poster paint and blend. After blending you can also add small pieces of coloured tissue paper, petals and leaves if you want.
4. Half fill the tray with water and add a couple of handfuls of pulp. Mix the pulp into the water with your hand. Place a pile of absorbent cloths on the table next to the tray.
5. Hold the mesh frame, with the mesh facing upwards. Put the second frame over the mesh.
6. Hold the frames together and place into the tray containing the water and pulp. Move the frames backwards and forwards under the water still holding them together.
7. Lift the frames out of the water and allow some of the water to drain out. Remove the top frame.
8. Flip the pulp-covered frame over onto the absorbent cloths. Press down onto the back of the mesh with a sponge to extract water from the sheet of pulp.
9. Carefully lift the frame from the pulp.
10. Leave the sheet of wet paper on the cloth or transfer to a sheet of newspaper to dry. You can cover the wet sheets with further sheets of newspaper and place something heavy on top to help flatten the paper while it dries.



Paper-making equipment

A box of paper-making equipment is available for loan from [www.westernriverside.org.uk/atschool.php](http://www.westernriverside.org.uk/atschool.php)

### Take action at home

Reduce junk mail at home by signing up to the Mailing Preference Service at Freepost 22, London, W1E 7EZ or go to [www.mpsonline.org.uk](http://www.mpsonline.org.uk)

Find out what kind of paper recycling services are available to you locally using [www.capitalwastefacts.com](http://www.capitalwastefacts.com). Many households now have a doorstep collection service for waste paper such as newspapers and magazines. If not, take your waste paper to a local recycling bank.

Look out for seasonal recycling schemes. For example, The Woodland Trust organise an annual Christmas card recycling scheme which in January 2005 collected a record 58 million cards. Visit [www.woodland-trust.org.uk](http://www.woodland-trust.org.uk)

Use recycled paper products at home such as writing paper, tissues, and toilet and kitchen rolls. For more information about recycled paper products visit [www.recycledproducts.org.uk](http://www.recycledproducts.org.uk) or [www.recyclenow.com/buying\\_recycled](http://www.recyclenow.com/buying_recycled)

## 2. School lunches: Composting food and green waste

Around 55% of household waste is biodegradable with an average of 38% made up of food waste such as vegetable peelings, tea bags and food scraps. Each person in the UK generates between 50kg and 125kg of biodegradable waste each year.<sup>1</sup> This type of waste is also known as organic waste.

When organic material is buried in a landfill site, it is deprived of oxygen and decomposes anaerobically. The anaerobic decomposition of organic material generates methane which is a greenhouse gas causing 20 times as much global warming as CO<sub>2</sub>. Organic materials are the main source of methane within a landfill. A potentially hazardous liquid called leachate is also produced by the decomposition of organic waste and this may contaminate water supplies if it escapes from landfill.<sup>2</sup>

Under the EU Landfill Directive, by 2010, England will have to reduce the amount of biodegradable municipal waste diverted to landfill to 75 per cent of that produced in 1995, 50% by 2013 and to 35% by 2020.<sup>3</sup>

Compost forms as a result of the natural breakdown of organic material derived from living animals and plants. Composting is an aerobic process (i.e. it uses oxygen) performed by the bacteria, fungi, insects and animals which inhabit soil. In a compost heap these organisms generate heat as they decompose organic matter and break it into fine particles. Composting is a relatively fast process, taking typically about 4-6 weeks to reach a stabilised product and is nature's own and oldest method of waste disposal and soil fertilisation.

Small-scale composting has been practised for many years at the individual household level. In addition, large-scale composting schemes are being developed where organic waste is collected from civic amenity sites and in some areas directly from households in separate kerbside collections. The organic waste collected is composted at large central facilities. The creation of compost from organic household waste will help meet household recycling targets. In 2002 and 2003 compostable waste was the most popular material collected for recycling with 24% more collected in 2002/03 than in 2001/02.<sup>4</sup>

#### Information sources

<sup>1</sup> [www.bracknell-forest.gov.uk/jwdb040311\\_07\\_waste\\_watch\\_project\\_update.pdf](http://www.bracknell-forest.gov.uk/jwdb040311_07_waste_watch_project_update.pdf)

<sup>2</sup> [www.wasteonline.org.uk/resources/InformationSheets/Compost.htm](http://www.wasteonline.org.uk/resources/InformationSheets/Compost.htm)

<sup>3</sup> [www.defra.gov.uk/environment/waste/topics/index.htm](http://www.defra.gov.uk/environment/waste/topics/index.htm)

<sup>4</sup> [www.wasteonline.org.uk/resources/InformationSheets/Compost.htm](http://www.wasteonline.org.uk/resources/InformationSheets/Compost.htm)

Compost is valuable as a soil fertiliser, mulch and soil conditioner which can improve the soil structure in both sandy and clay soils. It can also reduce soil erosion and desertification and can be used to restore contaminated soils. Making compost has lots of advantages for your local environment.

- 🔄 It saves space in your rubbish bin and means less waste goes to landfill sites.
- 🔄 By making your own compost you don't need to buy any. This saves money and packaging waste.
- 🔄 It prevents organic waste from being buried in landfill sites where it creates methane and contributes to global warming.
- 🔄 Many shop-bought potting composts contain peat. Peat is dug up from peat bogs which are home to many special plants and animals. In the UK 95% of our lowland peatbogs have been damaged or destroyed. Using compost instead of peat will help protect the peatbogs.

More information on compost, including an instant expert guide, primary and secondary resources and world view focus on the UK and Malawi can be downloaded from: [www.recyclezone.org.uk/tz\\_resources.aspx](http://www.recyclezone.org.uk/tz_resources.aspx)



Typical food waste found in a school canteen bin

### Take action to reduce food and green waste at school

In 2005 the average school in the Western Riverside region threw away 12kg of organic waste every week (not including lunch time leftovers). Since the introduction of the free fruit scheme, organic waste has made up an increasingly significant part of the school waste stream.

#### Implement a policy to encourage zero food waste

To help reduce food waste from packed lunches, school dinners and the canteen, first determine your school's food waste diversion potential using data from a recent school-wide audit (see page 11). Set short and long-term targets and use the following ideas to help reach the target.

- 🔄 Survey staff and pupils' attitudes towards food waste and their understanding of the amount of food waste that is generated in a typical day.
- 🔄 Raise awareness using posters, an environmental bulletin board, newsletters, website and assembly announcements.
- 🔄 Send a letter home to parents to let them know about the programme and provide them with suggestions on how to reduce food waste in packed lunches.
- 🔄 Ask the canteen staff to provide various portion sizes to accommodate all appetites, survey pupils to find out what they like and encourage them to take only what they are going to eat.

#### Monitor the success of your policy

- 🔄 Monitor progress by auditing your organics reduction for a week, every term.
- 🔄 Announce when you have successfully met your organic waste reduction targets.
- 🔄 Distribute a questionnaire to determine whether staff and pupils' attitudes have changed.
- 🔄 Compost food waste that cannot be eliminated through food preparation planning.

## Case study 2

### Composting and free fruit scheme

In the London Borough of Wandsworth, Hotham Primary School has become one of a handful of schools now successfully composting its fruit waste in the Western Riverside area. The school produces a valuable resource for its potted plants and nature garden.

Maggie Gunning, Eco-Coordinator, noticed that since the introduction of the fruit scheme the school always had a lot of peelings at the end of the day. She said: "Children from year two patrol the playgrounds after break to pick up any peelings that have accidentally been dropped and there are special bins in the playground which are only for fruit waste. We put everything in our wormery and compost bin, so it turns into compost."

Any school wishing to set up composting in their school grounds can do so, whatever size outdoor space they have. Even though the compost has to be kept on site, schools can develop the tiniest of areas and introduce a great new learning resource for all ages.



Pupils from Hotham Primary School topping up their wormery

## Top tips: Food and green waste

### Producing compost at school

- 🕒 It provides great scope for curriculum work, particularly through Science, Citizenship and links into the Healthy Schools Scheme and Education for Sustainable Development.
- 🕒 It enables pupils to learn about environmental issues in a hands-on way.
- 🕒 It is a good way of starting a small garden where the children can help to grow flowers and vegetables.
- 🕒 It provides a home to a wide variety of invertebrates that help decompose the food and green waste, so it is a good place for a minibeast safari. Creatures you can expect to find in a compost heap include brandling worms, bank worms, garden spiders, woodlice, millipedes, centipedes and ground and rove beetles.
- 🕒 It provides a partial solution and it is important to also look at ways to reduce packaging waste from snacks and lunches. This is addressed further in Section 3 (page 27).

### What kind of compost system should we use?

- 🕒 Only set up a compost bin if you have the means to use the compost onsite (raised beds are a great way of introducing your school to wildlife or growing vegetables).
- 🕒 By law, schools can only use their compost in the school grounds.
- 🕒 If space is restricted, wormeries can be used.
- 🕒 If composting is not possible, your borough may be able to provide an alternative facility.
- 🕒 If you have too much fruit, try composting one day's worth or one class worth and add another compost bin when the scheme is running successfully.
- 🕒 A 60/40 mix of hard and soft material will produce good compost (see below).

### Compost bins

Always site the compost bin away from the school building and not on concrete. Locate on grass or bare soil as the liquid produced needs to soak away. The compost bin should have a lid to keep the moisture in and the rain out.

### Wormeries

A wormery can be kept indoors or outside on a balcony and is ideal for people who do not have a garden. The castings are made in the top tray and when it is full another tray is added to the top and the worms migrate upwards. The worms also produce liquid fertiliser, which collects in the bottom tray and is useful on the garden and for potted plants. Worms that live in a wormery are not earthworms from your garden. They are special compost worms such as red wigglers or tiger worms. These worms like rich, wet conditions and do not burrow deeply like earthworms.

Further information about worm and compost bins can be found at [www.recyclezone.org.uk/az\\_composting.aspx](http://www.recyclezone.org.uk/az_composting.aspx) and [/az\\_worms.aspx](http://www.recyclezone.org.uk/az_worms.aspx)

Soft materials	Hard materials	Forbidden materials
These materials break down quickly and keep the bin moist:	These materials are drier, give the compost its fibre and allow good air circulation:	You should never compost the following:
vegetable peel fruit scraps teabags grass cuttings hedge clippings	shredded paper (including paper towels) straw wood chippings sawdust cardboard	cooked vegetables dairy products meat fish bones pet litter disposable nappies

If you are using a wormery to compost, do not put too much orange peel in as citric acid is not good for the worms.

### Internal collection systems and maintenance

In addition to the external compost or worm bins, you will need a system by which to collect appropriate food waste either from the classroom or playground. You can appoint pupils as monitors to collect fruit scraps at break and lunchtime, or you can make one class responsible for looking after the compost bin or wormery. Implement regular checks on the composting initiatives you have established and adapt the systems if necessary. Monitor the amount and type of organic waste composted. Ensure you are able to use the amount of compost produced onsite or reduce inputs if you are not.

## Composting rules and regulations

Under the Animal By-Products Regulation (May 2003), the composting of catering waste (all waste food including used cooking oil and vegetable peelings from a kitchen where meat is handled) and animal by-products (meat or animal product waste from other sources) must normally take place in Defra-approved premises. Regulation 16 of the national regulations provide an exemption which can be applied to a school if the food waste is composted on the premises on which it originates.<sup>1</sup> This is subject to the following restrictions.

- ☞ You can not compost any meat, fish or cooked food waste.
- ☞ The decomposed material must be used only on that premises.
- ☞ Pigs and ruminants must not be kept on the premises. If poultry are on the premises, they must not have access to the composter.

<sup>1</sup> <http://www.defra.gov.uk/animalh/by-prods/cater/compost.htm>

## Activity 8: Make a mini compost bin

### Learning objectives

- ☞ List at least three materials that are suitable for composting.
- ☞ Understand why composting is better than landfill.
- ☞ Describe the role of mini-beasts and micro-organisms, such as bacteria and fungi in composting.

### Subjects

Geography  
Science

### QCA Links

Science  
Unit 3C (yr 3)  
Unit 5 6H (yr 5/6)

### NC Links

Sc 1, Sc 2,  
Gg 5, Gg 6

### You will need:

- ☞ a two-litre plastic bottle (cut around the top, do not cut the whole way around but leave a small section to act as a hinge);
- ☞ newspaper (ripped into small pieces);
- ☞ soil, leaves, grass and a selection of chopped fresh fruit and vegetable scraps;
- ☞ water spray;
- ☞ a permanent marker pen; and
- ☞ sticky tape.

1. Open the bottle and place 2-3cm of soil at the bottom.
2. Add 2-3cm of vegetable scraps, cover with a thin layer of soil and sprinkle fertiliser or compost maker.
3. Add a layer of dry leaves and grass and cover with soil and fertiliser.
4. Add another layer of vegetables and cover with soil.
5. Add a layer of newspaper and cover with soil.
6. Repeat layers until the bottle is full. Make sure the final layer is soil with a sprinkling of fertiliser. Spray with water.
7. Close the bottle and secure with tape.
8. Mark the level with a permanent marker pen.

## Points to discuss

- ☞ Ask pupils to make a prediction: will the level of the bottle rise, fall or remain the same? Ask them to explain why.
- ☞ The key point to highlight is that the action of microbes/micro organisms (bacteria and fungi) will make the materials rot. Bacteria and fungi are present in the soil and air. Many pupils may think that composting is a result of minibeasts, they help speed up the process but materials need to begin rotting before they will digest it. Bacteria and fungi create heat and compost heaps can reach temperatures of 60 degrees Celsius.
- ☞ Pupils observe changes in the bottles over the next few weeks and record changes in their book.
- ☞ When the experiment is over the contents can be transferred into your compost bin.

## Take action at home

You can make your own compost at home either by making a traditional compost heap or by using a worm bin. There are numerous containers now on the market for making a compost heap, although perfectly satisfactory ones can be constructed from scrap timber, old tyres, bricks or wire mesh. Advice on making a compost heap is widely available through gardening books and magazines. Contact your local recycling officer to see if they provide household compost bins or if they offer a green waste collection scheme.



Any size space can be utilised for composting

### 3. School lunch waste: Food packaging

In 2001, the UK produced an estimated 9.3 million tonnes of waste packaging, 5.1 million tonnes from households. About a quarter of an average household bin in the UK is packaging waste, 70% of which is food and drink packaging, mainly plastic, paper and cardboard.<sup>1</sup>

There are three main categories of packaging:

- Primary packaging - the wrapping or containers handled by the consumer.
- Secondary packaging - larger cases or boxes used to group quantities of primary packaged goods for distribution and display.
- Transit packaging - used to group items together for transportation, normally wooden pallets, board and plastic wrapping.

In 1994, the European Commission introduced a directive on packaging waste which requires member states to reduce the amount sent for final disposal, achieve packaging waste recovery and recycling targets, and ensure that packaging meets certain essential requirements.

Without packaging, many goods, particularly foodstuffs, would have a shorter shelf-life and not reach the consumer in a fit condition. Packaging has to meet a number of criteria. It should:

- be consumer-friendly and able to display consumer information;
- protect the contents; and
- be the best environmental option when manufactured and disposed of.

Goods are packaged in a variety of materials but 53% of packaging is plastic and 25% is paper and cardboard.<sup>2</sup> 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% aluminium foil.<sup>3</sup>

There is currently only one facility in the UK which can recycle juice carton (tetrapak). The best kind of packaging is that which can be used a number of times, for example, pallets, cardboard or wooden boxes, reusable plastic crates and milk bottles.

Waste Watch's report 'Resource management in the education sector 2005', found that the purchase and use of catering related consumables can be a significant part of a school's purchasing activities. The audits indicated that primary schools tend to purchase more fresh foods such as fruit and vegetables as well as dried and canned goods. This may be due to the smaller size of primary schools and also initiatives such as the free fruit scheme and the Healthy Schools Scheme. On the whole, secondary schools use more disposable items such as napkins, cups and cutlery and rely heavily on frozen and pre-made goods such as burgers and pizzas. These are seen as more convenient foods as they are often easier to prepare and last for longer. However, they tend to be associated with a greater production of packaging waste compared with less processed alternatives and may be of lower nutritional value.

More information on packaging, including an instant expert guide, primary and secondary resource and world view focus on plastic bags can be downloaded from:  
[www.recyclezone.org.uk/tz\\_resources.aspx](http://www.recyclezone.org.uk/tz_resources.aspx)

#### Take action to reduce packaging waste at school

A waste-free lunch project can help reduce or even eliminate packaging waste from packed lunches and can also include zero-waste lunch options for those using the school canteen. It is important to consider both where food and catering consumables have come from and the types of resources purchased. If your school has contracted catering out to an external supplier, this may present barriers to improving the sustainability of catering practices. However, try to discuss with the company any waste-free options they can offer you and consider adopting long-term measures.

#### Implement a policy to encourage a waste-free lunch

To help reduce packaging waste from packed lunches, school dinners and the canteen, first determine your school's disposable packaging diversion potential using data from a recent school-wide audit (see page 11). Set short and long-term targets and use the following ideas to help reach the target.

- Survey staff and pupils' attitudes towards disposable packaging and their understanding of the amount of packaging waste that is

generated in a typical day by asking: what are the problems with disposable packaging and what are the alternatives?

- Hold a waste-free lunch event on a regular basis - once a year, every term, month or week. To encourage participation you can hold it as a contest (see Activity 9 on page 30).
- Raise awareness using posters, an environmental bulletin board, newsletters, web site and assembly announcements.
- Send a letter home to parents to let them know about the programme and include suggestions on how to minimise waste in packed lunches (page 29). Illustrate how you can save money by decreasing single-serving purchases.

#### Monitor the success of your policy

- Monitor progress by auditing reduction in lunch packaging for a week every term.
- Announce when you have successfully met your reduction target.
- Distribute a questionnaire to determine whether staff and pupils' attitudes have changed.



Pupils enjoying a waste free lunch

#### Information sources

<sup>1</sup> ACP Report of the Task Force of the Advisory Committee on Packaging, 2001, p28

<sup>2</sup> INCPEN - Towards Greener Households, 2001

<sup>3</sup> [www.wasteonline.org.uk/resources/InformationSheets/Packaging.htm](http://www.wasteonline.org.uk/resources/InformationSheets/Packaging.htm)

### Case study 3

#### A waste-free lunch

In the London Borough of Hammersmith and Fulham, Wormholt Park Primary School has been participating in the Recycle at School programme since 2004. In that time it has incorporated many schemes to reduce, reuse and recycle its waste. After completing an initial waste audit in school the results showed that a large proportion of the waste was made up of plastic and cartons from snack and lunchtime packaging. Follow-up activities to raise awareness of this issue involved pupils rating a series of lunches with reference to whether packaging could be reduced, reused or recycled. A waste-free lunch was devised from samples and ideas were discussed for future lunches.



A wasteful and waste-free lunch

To spread the message to the rest of the school, pupils delivered waste-free lunch lessons to the other classes. As well as providing an enriching experience for both pupil and teacher, a second waste audit showed an average reduction of 57% in both plastic and cartons.

#### Top tips: Food packaging

##### Reduce

- Plastic lunch waste**
- ☞ Avoid disposable cups, plates, cutlery etc.
  - ☞ Buy products with little packaging.
  - ☞ Buy one large container rather than lots of small ones and share out accordingly, e.g. buy one big bag of crisps and bring a few each day in a reusable container, buy one large bottle of juice and bring in a reusable bottle or flask.
- 
- Crisps and sweets**
- ☞ Encourage healthy eating. Introduce a day where no crisps or sweets are allowed and compost any organic waste from healthy snacks.
  - ☞ Sell locally sourced fruit at a stall run by pupils. Charge less for fruit than crisps.
  - ☞ Set up a toast or cereal club.
- 
- Milk cartons**
- ☞ Use milk bottles that you can wash and return.
  - ☞ Buy a large bottle and pour out into plastic washable beakers or school mugs.
- 
- Cooked food waste**
- ☞ Only take what you can eat.
  - ☞ Encourage healthy eating using posters and signs - e.g. why vegetables etc.
  - ☞ Put leftover bits of wet bread, pudding, or fat out on a bird table.

##### Reuse

#### Lunch packaging

- ☞ Encourage the use of reusable containers for packed lunches such as flasks, sandwich boxes and snack containers.
- ☞ Work with canteen and administrative staff to replace disposable plates, cups and utensils with reusable equivalents for use at lunch, in breakfast programmes and special events.
- ☞ Introduce an incentive to promote the use of reusable containers in the canteen, for example, discounts on beverages for staff and pupils who bring reusable mugs.

#### Yoghurt pots

- ☞ Put glue, water, paint etc. in washed-out yoghurt pots.
- ☞ Reuse in model-making.

#### Plastic bottles

- ☞ Cut in half and put over small plants to help them to grow and protect them.
- ☞ Cut the sides out of plastic milk bottles and make a bird feeder with seed at the bottom.

#### Plastic cups, plates and cutlery

- ☞ Use washable crockery, e.g. china or plastic beakers and washable cutlery.

### Activity 9: Design a waste-free lunch

#### Learning objectives

- ☞ Understand why many snack foods are heavily packaged.
- ☞ Work in groups to share ideas for planning a waste-free lunch and present them to the class.

#### Subjects

Geography  
Science

#### QCA Links

D&T Unit 3A (yr 3)

#### NC Links

En 1, Gg 1, Gg 5,  
Sc 2, Sc 3

#### You will need:

- ☞ a selection of snack food packaging, e.g. biscuit wrappers, crisp packets, yoghurt pots, commercial sandwich packaging, drinks cartons, and cans;
- ☞ scrap paper for drafting and large sheets of paper for posters; and
- ☞ felt tip pens, pencils and coloured paper.

#### Delivery

- ☞ Spend five minutes showing the class the packaging samples and discussing possible alternatives to consuming heavily packaged food.
- ☞ Divide the class into groups of four to five and give each group scrap paper and pencils for drafting. Explain that they are to work as a team to plan an enjoyable packed lunch which will avoid wasteful packaging. Allow pupils up to ten minutes to talk about their ideas.
- ☞ Ask each group in turn to present their ideas to the rest of the class. Brainstorm the best ideas from the class and discuss making posters to encourage other children to avoid over-packaged snacks.

### Continued Activity 9: Design a waste-free lunch

- According to age and aptitude, pupils can then work individually, or in groups, to draw and write up their waste-free lunches using ICT, if desired.

#### Waste-free lunch challenge

Organise a waste-free lunch event 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 box. Involve parents by explaining what you are trying to achieve and how a waste-free lunch can also help to save money, i.e. buying items in bulk instead of individually packaged units. Use popular lunch food examples to illustrate. It can be a one-off contest or adapted for repeated use.

#### Tips for a primary school

- Hold the event as a competition between classes and award prizes to the class that generates the least amount of packaging waste.
- You can give one point for reusable items included in lunch boxes, e.g. drink container, cloth napkin, cutlery, sandwich/snack container, lunch box or bag, and deduct one point for each single use disposable item and half a point for each recyclable item.
- Recognise achievements by announcing the results.

#### Tips for a secondary school

- Get the environment club or school council to help organise the event by inviting local businesses to donate prizes, such as cinema tickets, and include all pupils who bring a waste-free lunch in a ballot draw.
- Weigh the packaging waste at the end of lunch if it can be kept separate from food waste. Record the results and set new targets.

### Take action at home

Reduce the impact of packaging waste at home by buying products with less packaging. Buy non-perishable goods in bulk as they have less packaging than lots of individual items.

Where possible, use refillable products. For example, printer cartridges, milk and cleaning fluids are all available in returnable containers.

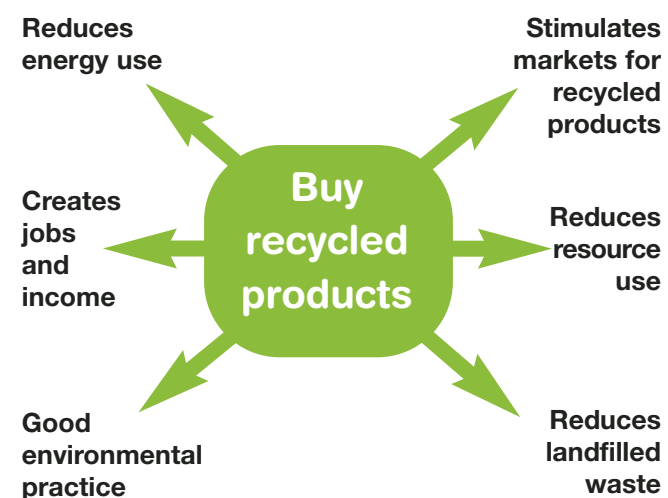
Buy items in recycled and recyclable packaging. Dispose of packaging thoughtfully by recycling or composting.



Reducing packaging at the shops

## 4. Buying recycled

Schools wishing to 'close the loop' on recycling can do so through buying recycled products. But why should you? Many of the benefits are illustrated in the diagram below.



Source: Coleraine Borough Council

Each tonne of paper which is recycled saves 15 trees, as well as their surrounding habitat and wildlife.<sup>1</sup>

The manufacturing industry will continue to use raw materials, but by using them together with recyclable materials, our dependency on raw materials is reduced. New industry creates new jobs and many innovative businesses are taking advantage of this growing market and producing goods which are of high quality and value to the customer. Figures from London Remade show that during the year 2004/05, through the purchasing of recycled products in London alone, 480 jobs were created, 386,532 tonnes of waste were diverted from landfill and a total of £19 million was spent on recycled content products.

In addition to making good environmental sense, we are also reducing material sent to landfill sites. The Western Riverside Waste Authority predicts that around 60% of the household waste sent to landfill could be recycled under the current facilities available in the area. The other 40% also has potential as specialised markets expand.

Information source

<sup>1</sup> [www.cityoflondon.gov.uk](http://www.cityoflondon.gov.uk)

Many products which are used today in schools contain recycled material: paper towels; cardboard boxes; toilet rolls etc. Even though schools are buying recycled products, knowingly or not, the proportion of waste that can be recycled in school is generally far greater than the number of recycled products that the school is buying in return. Many schools are trying to find ways of 'closing the loop' and one example is through buying recycled paper for printing and photocopying.

### Take action to buy recycled at school

London schools are encouraged to sign up to the Mayor's Green Procurement Code through London Remade. There are four levels to the Mayor's code allowing each organisation to make a commitment appropriate to its current environmental policy. These are outlined below.

Schools can join at Level 1 and progress to Level A1 and A2 by meeting with a London Remade broker to discuss recycled products available to schools. Level B sees the school moving towards measurable change and setting targets to assist with their own budgets and commitment to buying 'green' and also giving London Remade the chance to collate information to monitor and promote those changes.

Schools' engagement with the Mayor's code helps develop markets for recycled products in the capital. As cheaper, higher quality products enter the market, schools will have more opportunities to save money whilst helping the environment.

### Purchasing recycled products for school

There are many firms selling recycled goods suitable for schools. Section C3 on page 41, provides a list of products and suppliers. Schools should check if their educational resources supplier has a green procurement guide or

catalogue that schools can order recycled goods from. For more information visit the following websites:  
[www.recyclezone.org.uk](http://www.recyclezone.org.uk)  
[www.wastewatch.org.uk](http://www.wastewatch.org.uk)  
[www.recycledproducts.co.uk](http://www.recycledproducts.co.uk)  
[www.recyclenow.com/buying\\_recycled/at\\_school/](http://www.recyclenow.com/buying_recycled/at_school/)  
[www.londonremade.com/recycling\\_rethink.asp](http://www.londonremade.com/recycling_rethink.asp)



Examples of recycled products

### Case study 4

#### Buying recycled products

In the London Borough of Lambeth, St Leonard's Primary School has been a signatory to the Mayor's Green Procurement Code since joining the Recycle at School programme in 2002. Since then the school has introduced an environmental policy and has been working with the Recycle Western Riverside campaign to raise environmental awareness and to buy recycled products.

The campaign has been working closely with St Leonard's Primary School to identify which products would be most suitable for teachers and pupils to use. The school is now purchasing a wide range of recycled products including recycled plain paper for photocopying and printing as well as recycled card, pencils (made from recycled plastic cups), rulers and display boards. Following their successes, St Leonard's has established a buy recycled policy as part of its environmental policy.

The school has found that buying recycled products can be simple and successful. Following this, the campaign has helped the school explore the possibility of using environmentally-friendly cleaning products throughout the school and purchasing items of school uniform made from recycled plastic bottles.

### Top tips: Buying recycled

1. Contact London Remade and sign up to the Mayor's Green Procurement Code by going to [www.londonremade.com/mgpc2.asp](http://www.londonremade.com/mgpc2.asp)
2. Find out who your school purchasing officer is and where and how you purchase your school resources.
3. Make a list of the most frequently bought products for your school and the current price of each.
4. Arrange a meeting with the purchasing officer and a London Remade broker.
5. Your London Remade broker will be able to tell you what the best price is for each of the products within your borough.
6. Include your objectives as part of your purchasing or environmental policy and get the backing of the head teacher so that all staff adhere to it.

Recycled products are getting cheaper all the time and will continue to do so as demand for these products increases. London Remade will be able to tell you which products are available and at what price. Some may be fixed through contracts with your local councils but some products may be slightly more expensive compared to current purchasing. Tips for combating this are outlined below.

- 🕒 Many councils will exchange a refuse bin for a recycling bin which may result in lower waste collection costs depending on the waste operator. This saving could be used to purchase recycled products for the school.
- 🕒 Any revenue gained from current recycling initiatives, e.g. ink cartridges, could be used to offset any increase in costs from purchasing recycled products.
- 🕒 Some councils provide funding for new initiatives in school. For example, the London Borough of Wandsworth offers grants for practical environmental projects.
- 🕒 Use your school council or environmental group to raise money for new products or ask local businesses to support your cause. It may even prompt them to change their own purchasing policy.
- 🕒 Networking schools and those forming a purchasing group can put pressure on suppliers to lower costs, particularly when buying in bulk.
- 🕒 For all your efforts London schools can register for the Mayor's Schools Environment Award for a chance of winning up to £2,000. To register go to: [www.london.gov.uk/mayor/education/lsea/index.jsp](http://www.london.gov.uk/mayor/education/lsea/index.jsp)

### Take action at home

Just by checking the recycled content of your purchases you can become aware of what producers are doing to become more sustainable. The market for recycled products is continually growing and by consciously buying these products you are putting pressure on the rest to do their bit to be more environmentally responsible. Here are some actions which you can take.

- 🕒 Buy Birthday, Christmas cards, etc. with recycled paper content.
- 🕒 Buy recycled products as gifts for friends and family or even for yourself.
- 🕒 Charity shops sell an increasing range of recycled goods, many of which are also Fair Trade products.
- 🕒 Buy items with packaging that can be reused or recycled and check to see how much recycled content is within the packaging.

# Section C

## Sustaining action on waste



**“Keep up the good work and our future generations are certain to make important changes regarding our responsibilities towards consumption and waste disposal”**

Oxford Gardens Primary School  
The Royal Borough of Kensington and Chelsea

## 1. Whole-school involvement

### Keys to success

The key is to ensure that recycling is integrated into the school management and curriculum development plan. A school environmental policy can help do this (page 54). Involve as many people as possible at the outset, publicise your plans and get your message across in a lively and imaginative way so everyone wants to be involved. Whole-school involvement with commitment throughout the school from the head teacher, governors, pupils, site and teaching staff, helps continuity when staff and pupils move on and is essential to sustain the message. For success consider the points below.

### Integration within the school management

- 🔄 Does the environment feature in the school's aims and ethos?
- 🔄 Does the school have an eco-code or environmental charter which has been developed and agreed by all parts of the school community?
- 🔄 Is the school managed in a way which supports sustainable development? Any waste reduction and recycling initiatives should be set up as part of the waste management system of the school.

### Integration within the school curriculum development plan

- 🔄 Is environmental activity used effectively for curriculum enrichment?
- 🔄 Does it provide a balance through year groups and across subjects?
- 🔄 Is there progression in development of this topic through the year groups?

### Involving the whole school

- 🔄 Are all sectors of the school involved and committed, including governors and support staff? The involvement of the site manager and other cleaning staff is essential at the outset when implementing new waste management practices.
- 🔄 Are systems in place to ensure the involvement of the whole school? For example, school council, eco-committee, environment club, whole-class and whole-

school projects, reporting systems, assembly topics, presentations to the governors, staff training and professional development.

- 🔄 Is the message communicated to the whole school?

### Involving the local community

- 🔄 Is the school participating in any local or national education for sustainable development initiatives?
- 🔄 Does the school make effective use of advice and support from outside agencies?
- 🔄 Does the school communicate its environmental activities to the wider community?
- 🔄 Is the local community invited to participate in special school events?

### Evaluation and monitoring

- 🔄 Is there a system in place to monitor, review and develop your school's environmental performance?

### Establishing an environmental committee

An environmental committee or the school council can help co-ordinate and implement an environmental policy or waste reduction action plan within school. The committee can involve pupils, staff, parents and governors.

### Communicating the message

- 🔄 Prepare school announcements for environmental theme days or weeks.
- 🔄 Co-ordinate an environmental display or exhibit within the school. Use bulletin boards, the school newsletter and web page.
- 🔄 Incorporate successes within school assemblies.
- 🔄 Publicise your waste charter - ten things your school will do over the next year to cut down on waste - through school and local media.
- 🔄 Make a school environmental display for open days and local festivals.

### Special events

These can help to get other pupils and staff interested and involved, for example:

- 🔄 a giant waste sculpture;
- 🔄 a recycled fashion show;
- 🔄 site visits to local recycling facilities;
- 🔄 competitions to design posters or logos, write poems or decorate recycling bins and banks;
- 🔄 an environmental activity day; or
- 🔄 a book swap.

Some schools raise funds for their environmental initiatives from local businesses and grant agencies. Contact local businesses that you think would be interested in supporting education and environmental initiatives.

### Involving your local community

Working with the wider community outside of school can provide pupils with an opportunity to gain important life-skills.

- 🔄 Get pupils to write letters to manufacturers of products they find particularly wasteful because of excess packaging. Include suggestions and alternatives within the letter.
- 🔄 Encourage pupils to write a letter to the editor of a local newspaper or submit articles about the school's waste reduction programme and its success.
- 🔄 Create and present an award or certificate to a local business that the pupils think has made efforts to reduce its waste.
- 🔄 Conduct a community survey to monitor waste issues locally.
- 🔄 Run school projects such as a recycled fashion show or waste reduction mural and display the results in the local library or perform the fashion show for the local community.
- 🔄 Design a leaflet or poster for a local community recycling initiative.

### Monitoring success

Measure your achievements and publicise them. Telling the school community how much you have recycled and if this has raised money helps to motivate people further. Measure progress and set new targets. You can co-ordinate efforts through a committee of staff and pupils.



Jumble sales can raise money for your school

## 2. Guidelines for developing whole-school environmental policies

An environmental policy is a formal proclamation of your school's commitment to reduce the environmental impacts of its day-to-day activities. It should be a written statement outlining the school's mission in relation to managing the environmental effects of its operations. If you have an existing policy, this is an opportunity to re-assess it.

The environmental policy should clearly state the aims and principles of a school (its mission) with respect to its impact on the environment. All organisations, including schools, have an effect on the environment to some degree and the policy should recognise this. The policy should also allow the school's management team to communicate its aims and objectives to all interested parties, which in a school are teachers and other staff, pupils, parents and suppliers.

The policy can cover all aspects of environmental management. Though there is no standard content for a school environmental policy, the key areas to consider are: purchasing policy; recycling; litter and waste management; energy and water-saving; travel to school; healthy lifestyles; and biodiversity. If the thought of a full environmental policy is too daunting, start with one key area and plan for integration of additional areas over time.

A school environmental policy should include statements relating to the key areas below.

- ☞ A statement of current practice. The review or audit of current practice is an essential starting point.
- ☞ Future plans with specified targets.
- ☞ Timescale for implementation.
- ☞ Resource requirements and sources.
- ☞ Who is responsible for enforcing the policy.

### The benefits of writing an environmental policy

The importance of a good environmental policy is clearly recognised within the curriculum and Education for Sustainable Development and can make a positive contribution to inspection evidence. The benefits associated with writing an environmental policy include:

- ☞ assuring commitment to demonstrable environmental management;
- ☞ maintaining good public and community relations;
- ☞ enhancing the school's image;
- ☞ improving cost control;
- ☞ conserving raw materials and energy; and
- ☞ sharing environmental solutions.

### Policy format and style

To ensure the policy is clearly written and concise there are a few basic rules to follow.

- ☞ Keep the statement short - if it is longer than a sheet of A4, it is probably too long.
- ☞ The statement is meant for everyone to see, so make sure it is easy to read and understand.
- ☞ The statement must be realistic, achievable and relevant to your organisation's activities and practices.
- ☞ Demonstrate commitment to making the policy work and get the statement signed, dated and endorsed by the head teacher, governors and/or senior managers. For a sample environmental policy see page 54.

### Example of a policy statement

The statements below can be used in your school's environmental policy, but make sure you adapt them to relate to your school more specifically.

- ☞ Comply with the requirements of environmental legislation and approved codes of practice.
- ☞ Continuously seek to improve environmental performance.
- ☞ Reduce pollution, emissions and waste.
- ☞ Reduce the use of all raw materials, energy and supplies.
- ☞ Raise awareness, encourage participation and train staff and pupils in environmental matters.
- ☞ Expect similar environmental standards from all suppliers and contractors.
- ☞ Assist pupils and staff to use products and services in an environmentally-sensitive way.
- ☞ Liaise with the local community and participate in discussions about environmental issues.
- ☞ Monitor progress and review your school's environmental performance on a regular basis.

### From policy to practice

Once you have written a policy it needs to be put into practice and not left on a shelf in a dusty cupboard! Make sure everyone knows what is in the policy as well as if and when you reach the targets. To check that your school's current activities comply with the environmental policy, undertake a review regularly - usually on an annual basis or initially in the first six months.

### 3. Resources

#### Recycled products

The table below lists products that your school typically purchases followed by a short description and then a column with a letter-coding system. Each letter refers to a different supplier which can be found in the next table with relevant contact details, plus other products that they supply.

Product	Short description	Letter coding
Colouring pencils	♻️ Forest Stewardship Council material	I
	♻️ Soya bean crayons	E
Envelopes	♻️ 'Treesaver' envelopes made from 100% recycled paper	E H G C
	♻️ Various colours, designs, with or without wallet, self-seal	E
Markers	♻️ Recycled paper barrels, double-life reservoirs, non-toxic	E G
Notebooks	♻️ Made from recycled paper and cardboard	A B C
	♻️ Made from recycled tyres and paper	L E
	♻️ Made from recycled vending cups	E
	♻️ Made from printed circuit boards	A
	♻️ Made from recycled juice cartons	A
	♻️ Cambridge 1005 recycled	E
Paper	♻️ Evolve Office A4 100% recycled	E H
	♻️ Evolve Business A4 100% recycled	E H
	♻️ Elli Poo Paper made from 75% recycled paper and 25% elephant dung	E
	♻️ Paper card made from recycled paper	B
Paper towels	♻️ 70% post-consumer, 30% recovered paper	E F
	♻️ 39% post-consumer	F
Pencil cases	♻️ Made from recycled tyres	I L
	♻️ Pencil boxes made from circuit boards or juice cartons	A
Pencils	♻️ Made from 100% recycled plastic vending cups	I E
	♻️ Made from recycled material	L
Pens	♻️ Made from recycled vending cups and milk bottles	I L E H J
	♻️ Made from 100% recycled corn starch	L E
	♻️ Made from computer printers	I
	♻️ Made from 100% recycled paper	L
	♻️ Made from 100% recycled PET water bottles (plastic)	H
	♻️ Made from recycled cardboard	L
	♻️ Made with algae from the sea	L
Rulers	♻️ Made from recycled plastic cups	I L E J
	♻️ Made from computer printers	E
	♻️ Made from printed circuit boards	E
	♻️ Made from juice cartons	E
Toilet rolls	♻️ 100% recycled	E F D
Wormery	♻️ Wormery made from recycled plastic	K

Supplier	Tel/fax number	Web/email	Products
A	Cutouts Ltd Tel: 01484 645281 Fax: 01484 645282 www.cutouts.net cutouts.london@virgin.net		Recycled circuit boards, e.g. clipboards, rulers, notebooks, coasters, organisers, mouse mats. Also recycled juice cartons, e.g. clipboards, mouse mats, rulers and coasters
B	Cutting Edge Cards Tel: 01257 792025 www.eco-craft.co.uk		Recycled card and paper
C	Eagle Envelopes Ltd Tel: 01506 634463		'Treesaver' envelopes
D	Fort James UK Ltd Tel: 01204 673300 Fax: 01204 673301		Lotus toilet paper, Lotus hand towels, and Bonus and Nouvelle brands
E	Green Stationery Co. Tel: 01225 480556 Fax: 01225 481211 www.greenstat.co.uk		Wide range of recycled paper and envelopes, including Ellie Poo paper, banana and coffee paper, pens, pencils, markers, flipcharts, notepads, post-its (all recycled material, e.g. recycled CD-Rs and CD-Ws.)
F	Kimberley-Clark Ltd Tel: 0800 269470 Fax: 01622 615001		Toilet paper
G	Natural Collection Tel: 0870 331 3333 Fax: 0870 331 3334 www.naturalcollection.com info@naturalcollection.com		Ecomarkers for flip charts and white board
H	Recycled Paper Supplies Tel and Fax: 01676 533832 www.recycled-paper.co.uk		Pens (cardboard, plastic), string, paper, envelopes, notebooks, folders, card, various kinds of labels, CD sleeves etc.
I	Remarkable Pencils Tel: 020 8741 1234 Fax: 020 8741 7615 www.remarkable.co.uk; info@remarkable.co.uk		Pencils and rulers made from vending cups and computer printers, and mousemats and pencil cases made from old car tyres
J	Save a Cup Tel: 01494 510167 Fax: 01494 510168		Recycled vending cups
K	Wiggly Wiggles Tel: 0800 216990 www.wigglywiggles.co.uk		Wormeries made from recycled plastic
L	Yo Promotions Tel: 01252 620593 Fax: 01252 620597 www.Yo-Promotions.co.uk www.recycled-products.co.uk www.greenpens.co.uk		Recycled sweetcorn pens, rulers and pens (cups), pens (PET bottles), notepads, mousemats, pencil cases (car tyres) etc.

## Useful websites

### General information

#### Capital Waste Facts

[www.capitalwastefacts.com](http://www.capitalwastefacts.com)

Website dedicated to explaining what is going on with waste across London. Includes a data centre and a school area called capital waste learning.

#### Friends of the Earth

[www.foe.co.uk](http://www.foe.co.uk)

Wide range of educational resources (some priced). Extensive catalogue available on request. Publishes 'Earth Matters' containing articles dealing with sustainable development.

#### London Remade

[www.londonremade.com](http://www.londonremade.com)

London Remade is in the business of recycling, providing help and advice on implementing recycling and waste minimisation systems and green purchasing. Support is available to schools in particular.

#### The Recycling Consortium

[www.recyclingconsortium.org.uk](http://www.recyclingconsortium.org.uk)

Produces a number of waste education resources.

#### Recyclezone

[www.recyclezone.org.uk](http://www.recyclezone.org.uk)

The Waste Watch website, hosted by Cyler the rapping robot, for children and teachers. Includes online activities and educational resources.

#### Recycle Now

[www.recyclenow.com](http://www.recyclenow.com)

The national campaign promoting recycling. The campaign works closely with councils and provides information on how you can become an instant recycler.

#### Recycle Western Riverside

[www.westernriverside.org.uk](http://www.westernriverside.org.uk)

A campaign to increase recycling, reduce the amount of rubbish produced and encourage the purchasing of recycled products.

#### Waste Watch

[www.wastewatch.org.uk](http://www.wastewatch.org.uk)

A leading UK organisation promoting action on waste reduction, reuse and recycling. Information on waste minimisation, recycling etc. Educational information, resources and training for teachers.

#### Wicked Waste

[www.wickedwaste.co.uk](http://www.wickedwaste.co.uk)

The Wicked Waste CD-ROM is a topic-based classroom tool exploring waste and recycling at Key Stage 2.

#### Women's Environmental Network

[www.wen.org.uk/waste/waste.htm](http://www.wen.org.uk/waste/waste.htm)

Campaign on health and environmental issues. Work on waste includes the real (washable) nappy campaign.

### Compost

#### The Composting Association

[www.compost.org.uk](http://www.compost.org.uk)

The Composting Association is the UK's membership organisation that researches and promotes best practice in composting and the uses of compost.

#### Get Composting

[www.getcomposting.com](http://www.getcomposting.com)

Everything you need to know about composting at home.

#### Little Rotters

[www.littlerotters.org.uk](http://www.littlerotters.org.uk)

Designed for primary schools to provide teachers with practical information and advice that helps to inspire and build the skills and confidence needed to start a Little Rotters Club and start composting at school.

#### Wiggly Wigglers

[www.wigglywigglers.co.uk](http://www.wigglywigglers.co.uk)

Information, advice, publications and products on composting and wormeries.

#### London Community Recycling Network

[http://www.lcrn.org.uk/projects/cohttp://mposit\\_network/](http://www.lcrn.org.uk/projects/cohttp://mposit_network/)

London CRN Compost Network provides support to home and community composters to reduce the amount of biodegradable waste going to landfill.

#### HDRA Organic Gardens for Schools

[http://www.gardenorganic.org.uk/schools\\_organic\\_network/](http://www.gardenorganic.org.uk/schools_organic_network/)

Works to encourage school pupils to participate in practical gardening activities using organic methods.

### Packaging

#### British Glass

[www.britglass.co.uk](http://www.britglass.co.uk)

British Glass Manufacturer's Confederation. Information sheets about recycling and accompanying teaching materials.

#### European Metal Recycling

[www.emrltd.com](http://www.emrltd.com)

EMR handles over eight and a half million tonnes of scrap metal a year at 65 sites, predominantly in the UK, and has liaison offices all around the world.

#### Glass Forever

[www.glassforever.co.uk](http://www.glassforever.co.uk)

Information about glass packaging and how to recycle glass.

#### INCPEN (Industry Council for Packaging and the Environment)

[www.incpen.org](http://www.incpen.org)

Classroom materials that explore issues of packaging for all key stages (some priced). Background information on recycling, litter management and reusable packaging.

#### RECOUP (Recycling of Used Plastics Ltd)

[www.recoup.org](http://www.recoup.org)

A non-profit-making body established by industry to promote and facilitate recycling of plastic bottles. 'Recoup' newsletter, educational materials and information available for teachers.

#### Steel Can Recycling Information Bureau

[www.scrib.org](http://www.scrib.org)

Offers information and activities related to steel can recycling.

#### Tetra Pac

[www.tetrapak.com](http://www.tetrapak.com)

Publications include 'Pack it up' KS2 and 'Products and Packaging' KS4.

#### School recycling schemes and recycled products

#### ALCAN

[www.alucan.org.uk](http://www.alucan.org.uk)

Aluminium Can Recycling  
Call for information pack on 0800 262465.

#### Aluminium Foil Recycling Campaign

[www.alufoil.co.uk](http://www.alufoil.co.uk)

Primary schools programme:  
KS 2 education pack.

#### Bag2School

[www.bag2school.co.uk](http://www.bag2school.co.uk)

Collect second-hand clothing, bedding and shoes to earn money for your school.

#### Cartridges

[www.cash4cartridges.com](http://www.cash4cartridges.com)

Collect cartridges for cash.

#### Lin-Pac Plastics Ltd

[www.linpac-plastics.co.uk](http://www.linpac-plastics.co.uk)

Videos and information for secondary schools, e.g. 'Polystyrene and the Environment'.

#### Mailing Preference Service

[www.mpsonline.org.uk](http://www.mpsonline.org.uk)

Put a stop to junk mail. Write to Freepost 22, London W1E 7EZ (no stamp required) for an application form.

#### Mobile phone recycling

[www.oxfam.org.uk/mobile](http://www.oxfam.org.uk/mobile)

[www.redcross.org.uk/index.asp](http://www.redcross.org.uk/index.asp)

Take old phones to any Oxfam or British Red Cross shop.

#### Save-a-cup Recycling Company Ltd

[www.save-a-cup.co.uk](http://www.save-a-cup.co.uk)

A recycling scheme whereby schools and businesses can register to receive regular collections of used vending cups.

#### Schools Participating in Recycling Initiatives and New Technology (SPRINTS)

[www.sprints.org.uk](http://www.sprints.org.uk)

Collect print cartridge and mobile phones for recycling.

#### Stamps

[www.PINNT.com](http://www.PINNT.com)

Put a stamp collection box in your school and support PINNT (Patients on Intravenous and Naso gastric Nutrition Therapy). Cut out about 5mm round the stamp and send to: P.I.N.N.T. PO Box 3126 Christchurch, Dorset, BH23 2XS. Tel: 01202 481625.

# Appendix

## 1. Questions for the head teacher

**1. How much paper does the school buy in a year in reams?**

..... reams (1 ream = 500 sheets)

**2. How much does one ream of paper cost?** .....

**3. Does the school buy any of the following recycled products? (please tick which ones)**

- |                                    |  |   |
|------------------------------------|--|---|
| <input type="checkbox"/> Envelopes | <input type="checkbox"/> White paper   | <input type="checkbox"/> Exercise books |
| <input type="checkbox"/> Card      | <input type="checkbox"/> Display paper | <input type="checkbox"/> Pens           |
| <input type="checkbox"/> Pencils   | <input type="checkbox"/> Rulers        | <input type="checkbox"/> Paper towels   |

**4. If no, do you know why?**

.....  
 .....

**5. Where do you buy most of the school's resources?**

.....  
 .....

**6. Do they sell recycled products? (please tick answer given by your head teacher)**

- Yes                       No                       Don't know

**7. Who else do you buy from?**

- GLS                       Viking                       Hope                       Office Depot
- Other.....

**8. Is there anything else that you would like to tell us?**

.....  
 .....

Thank you very much for helping us.

## 2. Questions for the class teacher

### 1. Do all teachers know that they should be reducing rubbish in school?

(please tick answer given by your class teacher)

- Yes
  No
  Don't know

### 2. Do you re-use any of these in the classroom? (please tick which ones)

- |  |   |
|--|---|
| <input type="checkbox"/> Scrap paper in classrooms | <input type="checkbox"/> Scrap paper by photocopier |
| <input type="checkbox"/> Water bottles             | <input type="checkbox"/> Cardboard                  |
| <input type="checkbox"/> Empty plastic bottles     | <input type="checkbox"/> Books                      |
| <input type="checkbox"/> Stamps for charity        | <input type="checkbox"/> Food tins                  |
| <input type="checkbox"/> Other .....               |   |

### 3. From the list above, which items would you like to start re-using?

.....

.....

### 4. Are any of the following materials collected from the classroom for recycling?

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> <u>Paper</u>           | <input type="checkbox"/> <u>Cardboard</u> | <input type="checkbox"/> Fabric             |
| <input type="checkbox"/> Foil                   | <input type="checkbox"/> <u>Cans</u>      | <input type="checkbox"/> Food waste         |
| <input type="checkbox"/> <u>Plastic bottles</u> | <input type="checkbox"/> Christmas cards  | <input type="checkbox"/> Printer cartridges |
| <input type="checkbox"/> CDs                    | <input type="checkbox"/> Computers        | <input type="checkbox"/> Furniture          |

The materials underlined can all be put into your large recycle bin outside.

### 5. Is there anything else that you would like to tell us?

.....

.....

.....

.....

.....

.....

Thank you very much for helping us.

## 3. Questions for the site manager

### 1. How many rubbish bins are there outside? .....

### 2. How many recycling bins are there? .....

### 3. What materials can you put in the recycling bin? (please tick which ones)

- Paper
  Cardboard
  Plastic bottles
  Glass
  Cans/tins

### 4. Who puts the recycling in the bin? (please tick which ones)

- Me (caretaker)
  Pupils
  Cleaners

### 5. Who collects the rubbish and recycling from outside the school?

.....

### 6. What day is the rubbish collected? .....

### 7. What day is the recycling collected? .....

### 8. Does the school have a compost bin? (please tick)

- Yes
  No
  Don't know

### 9. Do you help to look after it? (please tick)

- Yes
  No

### 10. Is there anything else you would like to tell us?

.....

.....

.....

.....

.....

.....

Thank you very much for helping us.

#### 4. Questions for the cooks

1. Are the school dinners made at school? (please tick)

Yes  No

2. Does the food come from local shops? (please tick)

Yes  No

3. What happens to all the rubbish in the kitchen? (please tick which ones)

<b>Food tins</b>	<input type="checkbox"/> Reused	<input type="checkbox"/> Recycled	<input type="checkbox"/> Thrown away
<b>Drinks cans</b>	<input type="checkbox"/> Reused	<input type="checkbox"/> Recycled	<input type="checkbox"/> Thrown away
<b>Plastic bottles</b>	<input type="checkbox"/> Reused	<input type="checkbox"/> Recycled	<input type="checkbox"/> Thrown away
<b>Cardboard boxes</b>	<input type="checkbox"/> Reused	<input type="checkbox"/> Recycled	<input type="checkbox"/> Thrown away
<b>Paper</b>	<input type="checkbox"/> Reused	<input type="checkbox"/> Recycled	<input type="checkbox"/> Thrown away
<b>Glass jars/bottles</b>	<input type="checkbox"/> Reused	<input type="checkbox"/> Recycled	<input type="checkbox"/> Thrown away
<b>Raw vegetable and fruit waste</b>	<input type="checkbox"/> Reused	<input type="checkbox"/> Recycled	<input type="checkbox"/> Thrown away

4. Do some of the children bring packed lunches from home? (please tick)

Yes  No

5. What happens to all their left-over food and packaging?

.....

.....

.....

.....

.....

.....

.....

.....

Thank you very much for helping us.

#### 5. Questions for the office manager

1. Do you have a problem with these? (please tick which ones)

Junk mail with the school's address on

Junk faxes

Junk mail without the school's address on

2. Who sends the most junk mail?

.....

3. What do you do with your envelopes? (please tick)

Reuse  Recycle  Throw away

4. Would you use any of these? (please tick)

<input type="checkbox"/> 'Return to sender' labels	<input type="checkbox"/> Envelope reuse labels
<input type="checkbox"/> Number to stop junk faxes	<input type="checkbox"/> Printer cartridge recycling
<input type="checkbox"/> CD-Rom recycling	<input type="checkbox"/> Stamp collecting for charity
<input type="checkbox"/> Collection bin for composting fruit	

5. Is there anything else that you do in the office to reduce, reuse or recycle rubbish?

.....

.....

.....

.....

.....

.....

.....

.....

Thank you very much for helping us.

## 6. Waste check sheet

Name of school ..... Date .....

Names of pupils in group .....

.....

.....

Which school area was the rubbish collected from? .....

Number of days collected over ..... Total weight of bags .....

Material type What material is it? Is it paper, is it plastic? If you're not sure, ask a teacher or helper.	Weight (grams) Use the correct spring balance to weigh the bags. If you're not sure, ask a teacher or helper.
Recyclable paper	
Non-recyclable paper	
Cardboard	
Metal	
Glass	
Plastic	
Organic (food and garden)	
Textiles	
Cartons	
Other	
<b>TOTAL</b>	

## 7. Sample environmental policy from St. Leonard's C.E. Primary School

St. Leonard's is a voluntary-aided Church of England primary school in the centre of Streatham with 210 pupils on its roll. It is an effective school. Standards and teaching are satisfactory overall and often good. It provides good value for money whilst placing an emphasis on tolerance and consideration for others and our environment. The policies of the school are based upon the premise that the school is an integral part of the community and should be a place where all people who want to learn are welcome and all pupils can be successful.

### Background

Since September 2001, St. Leonard's has had an unwritten policy demonstrated through past practices to raise the school community's awareness of the benefits of caring for the environment and moving towards a sustainable future.

More recently the school has put a great deal of effort into the Recycle Western Riverside scheme but the school feels there is still much to be done particularly in minimising energy usage in the school.

This policy is attempting to bring together in a holistic sense all the elements that relate to a sustainable future.

### Environmental policy statement

St. Leonard's Primary School aims to protect the environment by ensuring the sustainable use and management of scarce resources.

The Environmental Policy provides a framework based upon the values and sustainable development within which the school can place its own activities and operations. The policy also translates the core aims and beliefs of the organisation into objectives and guidelines for action, which will inform and have an impact on all areas of work.

### Goals/objectives

St. Leonard's will:

- ☞ Act as a role-model in environmental practices for pupils, staff and community.
- ☞ Reduce within the school the level of energy usage, minimise waste and litter and water consumption.
- ☞ Demonstrate to the local and wider community practical ways they can reduce energy usage, water consumption and send as little waste as possible to landfill.
- ☞ Adopt and aim to apply the principles of sustainable development. That is, development which meets the needs of the present without compromising the ability of future generations to meet their own needs.
- ☞ Strive to adopt the highest available environmental standards in all areas of its operations.
- ☞ Purchase, where feasible, sustainable products for use in the organisation's operations. For instance recycled, FSC or low environmental impact products and energy from renewable sources.
- ☞ Publicise the school's environmental position.
- ☞ Encourage employee involvement in environmental action.
- ☞ Aim to include environmental and ethical considerations in investment decisions where appropriate.
- ☞ Assess the environmental impact of all its operations on a continual basis.

## Strategies

- 🕒 St. Leonard's has developed a series of action plans to supplement each area of its environmental policy.
- 🕒 Each of the action plans is intended to bring St. Leonard's closer to its objectives.
- 🕒 The school is committed to a whole-school approach, as it is to other policies. Data has been collected through audits of energy usage, water consumption and level of waste and litter generated. This initial data will be used as baseline data to gauge progress.
- 🕒 Maintain a high profile for this policy.
- 🕒 Draft articles for local and national newspapers and other media outlets. Regular inserts in the school newsletter.
- 🕒 Review the curriculum in the light of this policy and make sure relevant material is covered; greenhouse gas emissions, renewable energy sources, environmental impact of pollution etc.
- 🕒 Involve pupils wherever possible in carrying out the tenets of this policy so they have the opportunity to learn environmentally sound attitudes and habits.

## Recycling

- 🕒 Reduce, reuse and recycle as much school waste as possible thus reducing the amount of waste sent to landfill. Reduction target is 50%.
- 🕒 Collection points around the school for all waste paper. Reduce the amount of paper used.
- 🕒 Reuse paper that is printed on one side.
- 🕒 Collect food scraps, such as apple cores, fruit peel from the Fruit Scheme and use in worm farm and compost heaps.

- 🕒 Consider the environmental impact when engaging in fundraising activities.
- 🕒 Collect toner cartridges which will be sent away for recycling.

## Energy conservation

- 🕒 Implement strategies to reduce energy usage within rooms, e.g. lights and heaters off, door closed, turning off computer screens.
- 🕒 Monitor temperatures in rooms to maintain optimum operating temperatures for heaters and coolers.
- 🕒 Use automatic timers on heating systems for maximum efficiency.
- 🕒 Investigate the use of renewable energy sources, e.g. solar panels.

## Water conservation

- 🕒 Investigate ways of minimising water usage, e.g. dual flush toilets, leak proof washers in taps.



# recycle

## western riverside

