

Green-Schools Litter & Waste



Green-Schools materials produced by

Green-Schools Office
Environmental Education Unit
An Taisce
Unit 5A
Swift's Alley
Francis Street
Dublin 8

Telephone: (01) 4002222

Fax: (01) 4002285

Email: greenschools@antaisce.org

Website: www.greenschoolsireland.org

Illustrations by marla.ie



This booklet is designed as a resource for teachers and students. It aims to inform and guide the successful implementation of the *Green-Schools* programme in relation to the first theme, litter and waste, as well as providing some background material for the education of these topics in the classroom. The booklet is divided into 5 main sections:

Section 1 reviews the reasons for choosing litter and waste as the first theme to be tackled by the *Green-Schools* programme and examines some of the possible links that can be made to the curriculum through the programme;

Sections 2 and 3 look at litter and waste respectively, providing information and statistics about litter and waste in Ireland, and suggesting practical methods and actions to address these problems both within the school and the wider community;

Section 4 provides examples for environmental reviews for both litter and waste;

Section 5 looks at the global picture and examines targets for waste and litter for the future, and gives details of contacts where further information on litter, waste, and related topics may be obtained.

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Section 1 INTRODUCTION

As described in the handbook that accompanies this booklet, there are seven essential elements to the *Green-Schools* programme. These are (1) Committee, (2) Environmental Review, (3) Action Plan, (4) Monitoring and Evaluation, (5) Curriculum Work, (6) Informing and Involving, and (7) Green Code. This booklet aims to contribute particularly to the Environmental Review, Action Plan and Monitoring and Evaluation stages of the programme in relation to the theme of litter and waste. Links to Curriculum Work have also been highlighted and emphasised throughout each stage of the booklet.

Green-Schools covers many different aspects of the environment. Litter and waste is chosen as the first theme because:

- The subject is particularly relevant to and part of the curriculum in both primary and secondary schools.
- Litter is a visible problem; both students and the local community will notice improvements in the appearance and image of the school.
- It is a good starting point for encouraging a sense of personal pride and responsibility.
- Climate change links to all themes in *Green-Schools*. By focusing on Litter and Waste of the *Green-Schools* programme you are contributing towards elevating climate change. Climate Change is explained further on page 24 or on the *Green-Schools* website www.greenschoolsireland.org

In your first implementation of the *Green-Schools* programme you will be expected to establish the seven elements of the scheme as described in the handbook, and to have made progress in reducing litter and waste in the school. *Remember, the activity ideas described in this booklet are just a starting point – it is quite probable you will develop some interesting and innovative ideas of your own.*

Information and Activity Worksheets

Further information and examples of activities for the school that are outside the remit of this booklet can be obtained from a variety of sources, such as ENFO (Environmental Information Service), EPA (Environmental Protection Agency), etc. A list of contact addresses where such information can be obtained is given at the end of this booklet.

*The following page provides an outline on how the *Green-Schools* programme can be integrated with subjects throughout both the primary and secondary curricula.*

SPHE (Primary)

- Promote personal development and well being.
- Develop citizenship and a sense of personal and social responsibility.
- Promote communication, co-operation and working with others.
- Encourage media awareness.

CSPE (Secondary)

- Recognised as a suitable Action Project for Junior Certificate classes.
- Develop citizenship and a sense of personal and social responsibility
- Promote communication, co-operation and working with others.
- Encourage media awareness.

SCIENCE

- Study of materials and their properties.
- Develop a scientific approach to problem-solving.
- Encourage responsibility for the environment and promote sustainable development.
- Promote communication of ideas, report writing and presentation

GEOGRAPHY

- Develop a critical understanding of environmental issues at local and global level
- Study of human and natural environments (land use, sustainable management of resources, etc.)
- Promote communication of ideas, report writing and presentation

Litter & Waste: Linking *Green-Schools* with the National Curriculum

LANGUAGES

- Source of topics for essays, poetry, etc.
- Promote communication skills, public speaking, debates
- Potential for many activities involving speaking and writing

ART

- Creation of posters / murals / fashion to aid environmental awareness
- Use of waste materials in creation of art in class

MATHS

- Provide real life situations for mathematical analysis (e.g. school waste audit)
- Use of charts and graphs
Introduction to database management

Also:

HISTORY

- Examination of change in waste over time
- Relate to development of materials and change in lifestyles and society

MUSIC

- Creating instruments from recycled material
- Adaptation of lyrics and songs to help inform about waste and litter issues



Section 2 LITTER

Litter has many forms and many sources, from a sweet wrapper thrown on the street to a dumped bag of rubbish or a fly-tipped load of demolition rubble. It is a very visible problem, polluting the environment and spoiling the appearance of otherwise attractive areas. Litter, a result of people's irresponsible behaviour, is also damaging to the tourist industry, and imposes unnecessary clean-up costs on public and private bodies which could be devoted to more productive purposes. In 2006 Dublin City Council alone spent over €31 million on street cleansing and litter warden operations.

Like graffiti, vandalism, poor maintenance or bad design, litter affects the impression people have of an area's quality and always figures high on surveys about environmental concern. It presents the wrong image of Ireland and the Irish and is a serious embarrassment at a time when we have a lot to be proud of as a nation.

We all need to be responsible for putting our litter in the bin.

Facts and Figures

- Litter is always caused by people. It is waste in the wrong place such as the footpath or the school yard.
- Litter ruins the appearance of our towns and countryside.
- Litter is a health hazard and may attract rats and flies which can spread disease.
- A national survey on the environment "Attitudes and Actions" published in April 2000 showed that while over one third of Irish people believe that rubbish on the streets is their top national environmental concern, almost half admitted to having littered!
- Local Authorities spend millions every year on cleaning the streets of Ireland. In 2002 over €60 million was spent – an enormous amount of money that could be spent on better things.
- Many people are prepared to take action on litter. Tidy Towns Committees throughout Ireland play a key role in keeping towns and villages clean. Their volunteer work over many years has had a great effect in raising awareness and activity around the litter issue. Another programme which is focusing on litter is the All-Ireland Anti-Litter League begun in 2002 by Irish Business Against Litter which involves the monitoring and publishing of litter levels in towns and cities across Ireland.

Green-Schools Objectives

- To show that litter is an environmental issue
- To put a litter policy into place.
- To demonstrate that litter reduction and prevention is an on-going process that involves all members of the school community.
- To regard litter clearing as positive environmental action.
- To show pupils that litter prevention improves the environmental quality of the school and the neighbourhood.
- To teach pupils not to litter.

Teaching Objectives

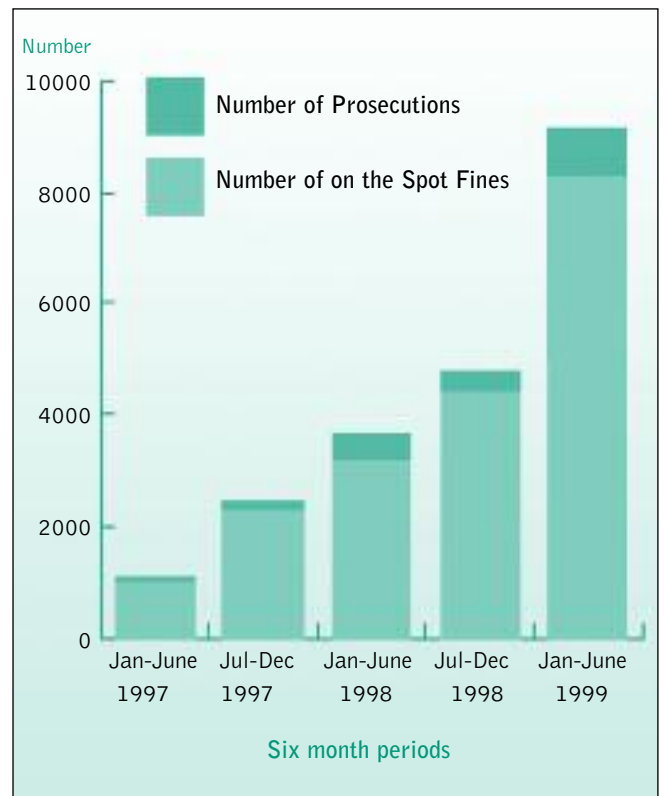
- To identify the impact of people on places and environments.
- To learn about sampling and devise and carry out surveys.
- To use and draw maps, defining and using keys.
- To collect, interpret and present data in different forms, using information and communication technology where appropriate.
- To work cooperatively with others.



2.2 Litter and the Law

Under the Litter Pollution Act, 1997, littering is a criminal offence subject to heavy fines. Since the introduction of the act Local Authorities have employed more litter wardens and have increased the numbers of fines issued and prosecutions taken. Offenders can be subject to an on-the-spot fine of €125 or a maximum fine of €3000 in court.

The definition of litter is quite wide and extends beyond casual pieces of paper, chewing gum or cigarette ends to anything large or small which is, or is likely to become, unsightly. A person convicted of a litter offence may also be required by the court to pay the local expenses in investigating the offence and bringing the prosecution. It is the responsibility of property owners to maintain a litter-free environment around their premises:



Litter Fines and Prosecutions

(EPA Millennium Report)

Note All schools have an obligation under the Litter Pollution Act 1997 to keep their grounds free of litter, so far as practicable. Schools that have achieved Green Flag status will be expected to have a system to ensure they meet these legal requirements

There are four standard grades of cleanliness in relation to litter



Grade A (Absence of litter) Litter free



Grade B (Bitty) Mainly litter free, some small items (cigarette ends, bus tickets)



Grade C (Crummy) Many small items and some larger ones (cans, fast food packaging)



Grade D (Disgusting) Heavily littered with large and small items, accumulations along boundaries



Dangerous Litter

Litter doesn't just spoil how things look: it can also be a health hazard.

Broken bottles and cans left lying around public areas can easily result in an injury, while food litter can attract rats and flies, which spread disease.

Litter can also be lethal to wildlife. For example, drink left in discarded bottles may attract small animals that can squeeze into the bottles but may drown or be unable to climb the smooth, sloping walls to get out. Discarded fishing lines can maim and kill water birds, while animals such as cows, sheep, horses and some marine animals may die as a result of mistaking plastic bags as food.



The topic of dangerous litter has a strong appeal for younger children, who are particularly concerned by the damage litter can inflict on animals. The information given here can inspire storytelling, dramatisations and posters depicting the dangers of litter. In 2008 450,000 people participated in the National Spring Clean collecting 3755 tonnes of waste.

Dog Fouling

Dog fouling can spoil the recreational use of school grounds and the presence of the roundworm *Toxocara canis* in dog faeces poses a serious threat to pupils' health.

Dog owners are legally required to remove their pets' waste from public places, including schools, and dispose of it in a proper manner. Your school could help plan a campaign to draw attention to the health threat posed by dog faeces in public areas.



A FREE Clean-Up KIT is provided to all volunteers who register through An Taisce. It includes information on how to organise an event, posters, refuse sacks, tabards, gloves, etc. Perhaps your school would like to get involved in National Spring Clean! Further details on National Spring Clean can be obtained at www.nationalspringclean.org

Remember:

- *Litter looks ugly.* Whether you have chewing gum, sweet wrappers or a fizzy drink can, put it in the bin. A clean school creates a good impression for visitors and produces a pleasant environment.
- *Litter can kill wildlife.* A plastic bag left lying around could suffocate a badger or bird, and a mouse could crawl into a bottle and get trapped.
- *Food left lying around is unhygienic.* Food waste smells and attracts pests such as flies and rats.
- *Litter stays around for a long time.* Aluminium cans take 80 to 100 years to break down. Even a banana skin can take two years to break down.

Top Tip:

Aim: To test how long it takes for certain litter items to rot or not. Bury different items of Litter or Waste in the schools grounds or in a large tub filled with soil. Items such as Bread Crust, Fruit Skins, Aluminium Foil, Juice Carton, Glass Bottle can be used. Each member of the class or teams should make a note of how long they think it will take each item to rot. Check the items after two weeks, a month and each school term. Report findings and Discuss.

Note *Rot or Not Worksheet can be downloaded on the EPA website: www.epa.ie*

National Spring Clean

Run throughout the month of April, National Spring Clean is An Taisce's premier and Ireland's largest anti-litter campaign, with three main objectives:

- To heighten awareness of litter and waste issues.
- To encourage clean-ups throughout the month of April.
- To promote sustained, practical involvement in looking after the environment.

In 2008 450,000 people participated in the National Spring Clean collecting 680 tonnes of waste.



2.3 What you can do – Reducing Litter at School

Most schools have a litter problem to some degree. The first challenge on the way to becoming a Green-School is to reduce the litter in the school grounds permanently! There are four stages to tackling litter in schools:

1. Analyse the problem

Before you even start to think about the solution you need to find out more about the problem. What are the main types of litter found in the school? Which are the areas with the highest quantities of litter? Use the litter survey described on the next page to find out how big your litter problem is and who or what causes it.

(See Step 2 in Handbook – *Environmental Review*)

2. Devise an action plan

Once you understand the problem you have to think of ways to solve it. Try to involve as many people as possible. Have a brainstorming session where everybody comes up with lots of ideas, however crazy they may seem. Your action plan should say what your targets are and how you are going to achieve them.

(See step 3 in Handbook – *Action Plan*)

3. Measuring success

You must plan from the beginning how you will measure the success of your anti-litter action plan. This will involve some method of comparing the amount of litter after the implementation of your action plan with the initial findings. Adjustments to your action-plan may then be made if necessary.

(See Step 4 in Handbook – *Monitoring and Evaluation*)

4. Maintenance

The most difficult thing is keeping the litter away permanently. In order to achieve this your anti-litter action plan should be ongoing. You will need to monitor the litter regularly and make sure it is cleared up if it becomes a problem again.

Traffic Light System

Bennekerry NS Co. Kilkenny used a Traffic Light System to promote the reduction and elimination of litter in their school. The green-schools committee decided that their old system of litter monitoring was no longer working. They used to have litter wardens checking the school grounds after their small break and lunch, picking up all the litter they could find. It was thought that this became too competitive among the wardens and litter amounts began to increase again! To solve this problem they introduced the traffic light system for the whole school. The school get a red light if more than fifteen pieces of litter are found each day, orange light if between five and ten pieces of litter are found and a green light if five or less pieces of litter are found each day. This new systems means that the whole school is working towards the goal of retaining their green light every day!

Curriculum links

- Realise that there is a personal and community responsibility for taking care of the environment.
- Keeping classroom, school and play spaces clean, tidy and safe.
- Disposing of litter appropriately using and drawing maps and plans, co-ordinates, symbols and keys.
- Engaging in anti-litter campaigns
- Identifying and discussing litter as a local and national environmental issue.
- Understanding how people affect the environment and how they can improve it.
- Planning and carrying out investigations.
- Measuring and quantifying.
- Handling numbers, converting into graphical forms, using spreadsheets.

A Note on Chewing Gum

1.74 million people in Ireland chew gum and over 60% of dental professionals in Ireland recommend sugar-free gum to their patients to improve oral health, to prevent tooth decay and to freshen your breath after eating. However, a minority of people drop their used chewing gum irresponsibly – on the footpath or wherever they stand. People who care for their environment dispose of it properly, by putting it in the bin. Make sure you dispose of your chewing gum properly and pass the message onto friends and families. *Used gum belongs in the bin, not on the floor/ground!*



Discussion points for school committee

- Why and when people drop litter.
- How to prevent litter.
- Difference in types of litter found inside and outside school.
- Impact of litter on surrounding environment.



2.3 Litter Survey (All ages)

Litter surveys to assess the size of the problem can involve your students and contribute to curriculum activities. Surveys can be designed to suit all abilities and ages. Simple surveys can record litter items by type on a large plan of the school or nearby area (see page 9 opposite). The school can be divided into easily identifiable areas such as the path to the front entrance, behind the bike racks or in the school grounds. Different classes could be given responsibility for each area.

Gathering data

If appropriate, students conducting the survey can also collect the litter – with, of course, adequate safety warnings and using protective gloves. The litter can then be sorted and weighed, providing extra data and an opportunity to discuss the best way to quantify litter. The data can be presented as graphs or built into a simple spreadsheet.

Questionnaires

Students can use a questionnaire to examine people’s attitudes to litter alongside the litter survey. Discuss the proposed questionnaire in class and agree on its purpose. Questionnaires should be designed to take into account the age and ability of the user, the patience of the respondent and the intended outcome. Students can ensure that the questionnaire works by testing it on each other.

Make it public

Publicise the results of surveys and questionnaires in the school. If the findings are likely to be of wider relevance, try to interest the local newspaper or radio.

Food for thought

Snacks and meals can be a source of litter and waste. Apple cores, banana skins, cans, wrappers and bread crusts sometimes end up as litter. A survey of lunch-time items will reveal potential litter and the information can be presented graphically on your *Green-Schools* noticeboard. This can be compared with the results of litter surveys carried out at different times of the day.



Quantifying Your Litter Survey

More comprehensive litter surveys can also be undertaken. The survey area (e.g. the whole school) can be divided into a number of sites. Each site (e.g. car park, school yard, social area, playing field, classrooms, canteen, etc.) can be graded A, B, C or D as outlined above (see page 5). You can then translate the grades into a numerical system whereby an A grade site scores 3 points, B grade scores 2 points, C grades score 1 point and D grade score 0 points. The score for the whole survey area (e.g. the whole school) is obtained by adding up the scores for each site, dividing this by the maximum score possible for the whole survey area, and then multiplying the answer by 100. A sample survey sheet is given below.

Time/Date – 10-11 am/Tue 18-10-06 **Weather** – Dry, cold, windy **Surveyors** – Mary, Frank

Site	Grade	Score	Comments/Most Common Items
School Entrance	A	3	Very clean, no litter visible.
Canteen	B	2	Some crisp packets and sweet wrappers.
School Yard	C	1	Drink cans, chewing gum, crisp packets and sweet wrappers.
Staff Room	A	3	Very clean, no litter visible.
Total		9	

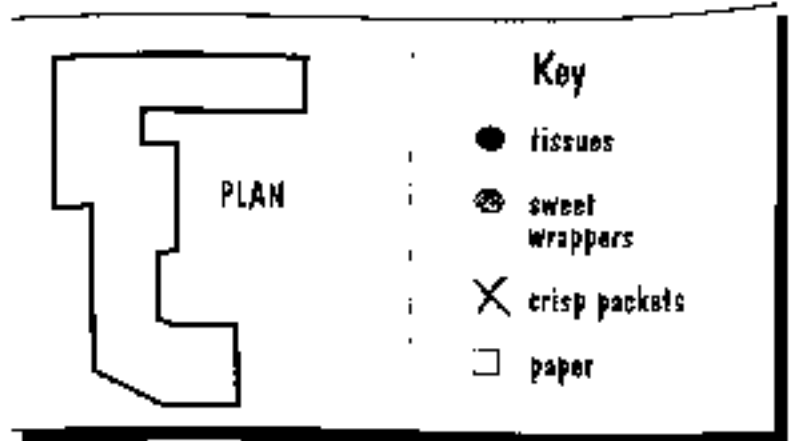
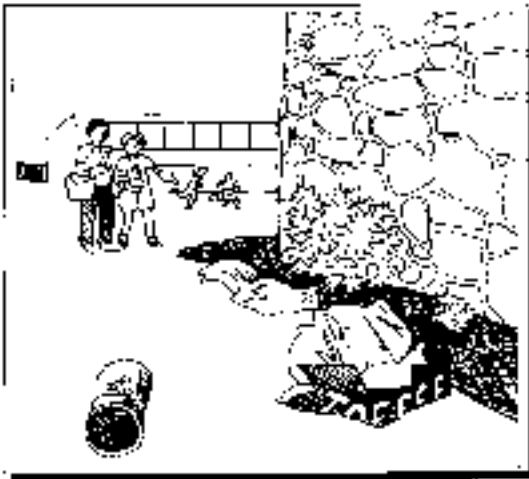
Of the 4 sites examined in the above example, there were two A grade sites, one B grade site and one C grade site. The total score in this case is $(3 \times 2) + (2 \times 1) + (1 \times 1) = 9$. The maximum possible score in this case is $(3 \times 4) = 12$. Therefore, the overall score is $[(9/12) \times 100] = 75$. Results should be compared before and after anti-litter measures are put into place and repeat surveys are a great way of monitoring your progress. *An overall score of 85 or higher is considered to indicate a litter-free environment. However, a perfect score 100 should be the target for every school.*



WORKSHEET 1

Litter survey in school grounds

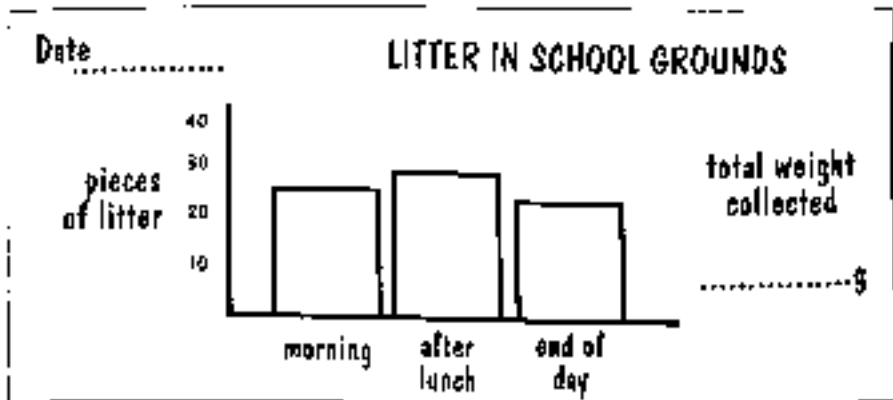
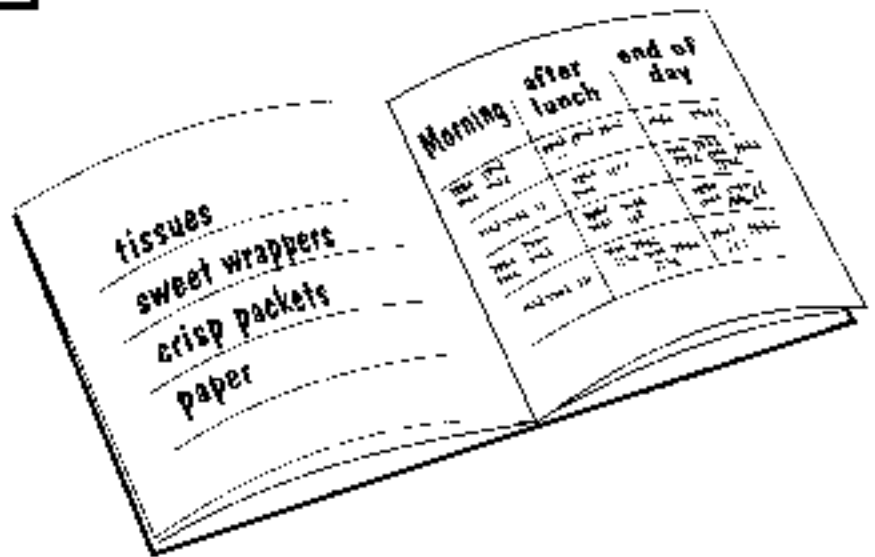
You can find out if litter is a problem in your school grounds.
If it is, you can try to do something about it.



- Take your gloves, collecting bag, plan and notebook out into the school grounds.

Each time you find a piece of litter:

- Put it in your collecting bag.
- Mark where it was on the plan and draw a key.
- Keep a tally of each piece of rubbish and the collection time.



- At the end of the day weigh the bag of rubbish.
- Make a chart like this one showing everything you have found out.
- Look at your plan and think of reasons why litter collects in certain places.



Section 3 WASTE



Background Information

Household and commercial waste production in Ireland has increased by 100% in the last 15 years. Landfills all around the country are under severe pressure, while our non-renewable resources are being exhausted at alarming rates. By thinking about the impact we are having on the environment and changing our actions accordingly we can play an important part in promoting sustainable development (i.e. “development which meets the needs of the present generation without compromising the ability of future generations to meet their own needs”). Reducing the amount of waste we produce by re-using, repairing, composting, recycling and, most importantly, preventing waste in the first place can help to protect both our country and our planet for future generations.

Facts and Figures

- In 2006, 30,704,140 tonnes of waste (excluding agricultural waste) was produced in Ireland. The amount of municipal waste generated rose to just over 3 million tonnes.
- Over half of this municipal waste was household waste, while the remaining part was commercial waste and street cleansing waste.
- This meant that every Irish person produced $\frac{3}{4}$ tonne of waste.
- Such waste is primarily composed of organic material, paper & cardboard, plastics, textiles, glass, metals, and hazardous household wastes.
- The quantity of household waste recovered was 28.6% in 2006, the remainder being disposed of in landfill sites.
- There was an increase in municipal waste recovery from 33.6% in 2004 to 36.1% in 2006.

Green-Schools Objectives

- To understand that minimising waste can help contribute to national waste minimisation strategy.
- To raise awareness of what schools can do to minimise waste going to landfill.
- To reduce, reuse, recycle waste whenever it is practicable and beneficial.
- To appreciate the financial as well as the environmental benefits of waste minimisation and recycling activities.
- To work with the local community in raising awareness and facilitating waste minimisation whenever possible to learn about materials and their sources.

Teaching Objectives

- To learn about decomposition and nutrient transfer.
- To collect, interpret and present data in different forms, using information and communication technology where appropriate.
- To make presentations on strategies to reduce waste to different audiences, such as students.
- To work cooperatively with others.



3.2 Waste and the Law

At present, 67% of our municipal waste ends up in landfill sites. However, old landfills can cause problems. Liquids produced from rotting rubbish can combine with water passing through the site and form leachates.



These leachates can drain into the surrounding soil, poisoning groundwater supplies and damaging natural habitats in rivers and lakes. The decay of organic matter can also produce methane, a flammable gas which can cause explosions and adds to the greenhouse effect. Landfill sites also attract rats, gulls and flies, and produce smells and windblown litter.

'Changing Our Ways' is a policy statement on waste management published in 1998 by the Minister for the Environment and Local Government. The statement set out the following targets to be achieved over a fifteen-year time scale:

- A diversion of 50% of overall household waste away from landfill.
- A minimum 65% reduction in biodegradable municipal waste consigned to landfill.
- The development of composting and other feasible biological treatment facilities capable of treating up to 300,000 tonnes of organic waste annually.
- Recycling of 35% of municipal waste.
- A rationalisation of municipal waste landfills, leading to an integrated network of some 20 or so state-of-the-art facilities incorporating energy recovery and high standards of environmental protection.

The Waste Management Act 1996, the Waste Management (Amendment) Act 2001, and the Protection of the Environment Act 2003 are the primary legislative instruments that govern the recycling and disposal of waste in Ireland. The Waste Management Act 1996 heralded a change towards a more rigorous and sustainable approach to municipal waste management in Ireland. Measures initiated under the Act are leading to a radical change in Irish waste management practice, which will see our current over-reliance on landfill decline sharply within a relatively short period, in favour of an integrated waste management approach which utilises a range of waste treatment options to deliver ambitious recycling objectives.

Waste in the EU

According to European Environment Agency statistics (2004), over 1.8 billion tonnes of solid waste is generated in the European Union each year. Every European citizen on average throws away 520kg of household waste per year, and this figure is expected to increase. That is an average of 3.8 tonnes per person per year. Most of this waste is either burnt in incinerators or disposed of in landfills. The *EU Landfill Directive* plans to limit the amount of biodegradable waste going to landfill to cut the methane emissions. Wastes such as liquid waste, explosive, corrosive or inflammable waste, clinical waste and waste tyres would be banned from EU Landfill sites under the legislation. As a member of the EU Ireland is required to comply with European law.

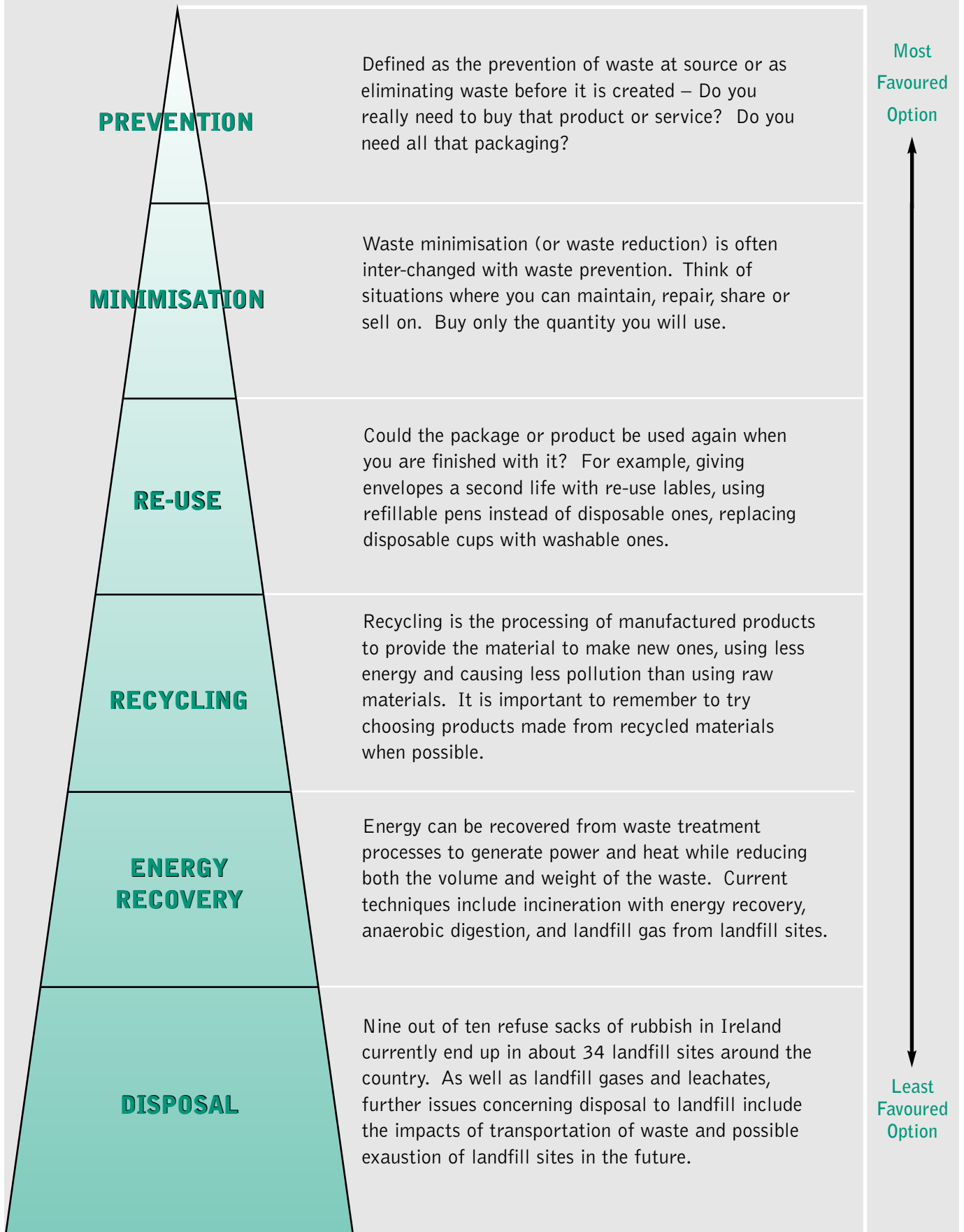
Agenda 21 and Local Agenda 21 was introduced by governments at the 1992 UN summit, and is an international commitment to reduce human impact on the global environment. Local Agenda 21 is a local action plan for sustainable development, co-ordinated by local authorities and involving all sectors of the community in shaping the future policies of their locality.

The Evolution of the Waste Can



Outlined on the next page is the 'Waste Management Hierarchy'. This details the various options from most favoured to least favoured for dealing with our waste.

Waste Management Hierarchy





3.3 What you can do – Reducing Waste at School

There are several reasons why a school may decide to take action to reduce waste. Not only will it result in a positive impact on the environment and local community, as well as encouraging a sense of responsibility for students and teachers alike, it will also help reduce the cost of waste disposal for the school. *It is important to remember that it will take time to build up support and implement an action plan to minimise waste for your school. It is best to start small and then build on your successes.* As outlined in the section on litter, there are four main steps to tackling waste in schools:

1. Analyse the problem

What are the main types of waste produced by the school? (A detailed example of how to carry out a waste audit is given on the next page) Only when you have built up a picture of the types and quantities of waste produced and what happens to it will you be able to make informed decisions about reducing it.

(See Step 2 in Handbook – *Environmental Review*)

2. Devise an action plan

As for litter, once you understand the problems you have to think of ways to solve them. There may be different solutions for different types of waste, e.g. organic, paper, plastic etc. Your action plan should say what your targets are and how you are going to achieve them.

(See Step 3 in Handbook – *Action Plan*)

3. Measuring success

Even simple calculations of waste, such as number of bins collected per week, can allow comparisons to previous waste output. Cost of waste disposal will also show if the output of waste from the school is reducing, and adjustments to your action-plan may then be made if necessary.

(See Step 4 in Handbook – *Monitoring and Evaluation*)

4. Maintenance

It is important to maintain your success in minimising waste production by ensuring the action plan is ongoing. You will need to monitor waste regularly for any changes in the volume of waste produced.

Your Local Authority should be able to give you details of refuse collections in your area: the number of lorries and staff; where the refuse goes; whether it is transferred to other vehicles before being transported to the disposal site and who is responsible for disposal.

You should also be able to discover the likely lifespan of your local landfill site and what plans exist to replace it when it is full. The resulting data offers good opportunities for mapwork and maths – calculating the number of vehicles per day using delivery routes, vehicle-miles per day and routes used.



Curriculum links

- Become aware of the importance of the Earth's renewable and non-renewable resources.
- Coming to appreciate the need to conserve resources.
- Recognise biodegradable and non-biodegradable waste.
- Identify materials that can be recycled
- Collecting and interpreting data.
- Communicating mathematically
- Environmental management and sustainability.
- Measuring and quantifying.
- Handling numbers, converting into graphical forms, using spreadsheets.

Discussion points for Green-School committee

- How much waste is currently produced by the school?
- How is the school attempting to prevent / minimise / re-use / recycle waste?
- What steps can be taken to improve the situation?
- How can these steps best be implemented?



3.4 Waste Survey (All ages)

As with litter, the first step in the development of your action plan is to survey the waste produced by your school. This will then allow you to decide how to reduce the quantity of waste produced and when and where it can be re-used, repaired or recycled.

Refuse audit

Students can analyse the wastes generated by the school; in many cases this can be carried out to a certain extent without handling the rubbish. They can look into bins and ask questions of the caretaker, secretary or other support staff. A list of common waste items is a good starting point for discussion. They can then investigate ways to avoid or reduce waste.

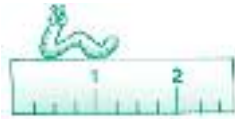
A good starting point would be to ask the following questions: How many bins, bags etc. leave the school for landfill every week? Could the school use compost bins for green waste? Could good quality school furniture be refurbished rather than replaced? (Further questions are outlined in the Environmental Review section on page 24)

A waste survey should tell you:

- How much waste is produced and where it comes from.
- What materials are in the waste stream.
- Who collects it and how much this costs.
- Who is responsible for waste management and how is waste handled in the school.
- How much waste prevention, re-use and recycling is already in place, and what opportunities are there for further waste prevention.

Gathering data

If appropriate, students conducting the survey can also separate, weigh and analyse the contents of the waste— with, of course, adequate safety precautions and using protective gloves. The data can be presented as graphs or built into a simple spreadsheet. It should be remembered that waste may vary at different times of the week and year. Items can be identified for re-use (e.g. plastic containers and bottles, cardboard boxes) and recycling (e.g. bottles, paper and cans). Some types of waste will not be suitable for re-use or recycling.



Questionnaires

Once you have identified the types and quantities of waste produced in the school you will now need to analyse how waste is managed within the school and whether the school has any policies to cut down on waste through reducing, re-using and recycling. This information can be easily obtained through a simple questionnaire which can be passed on to those who have responsibility for school waste.



Make it public

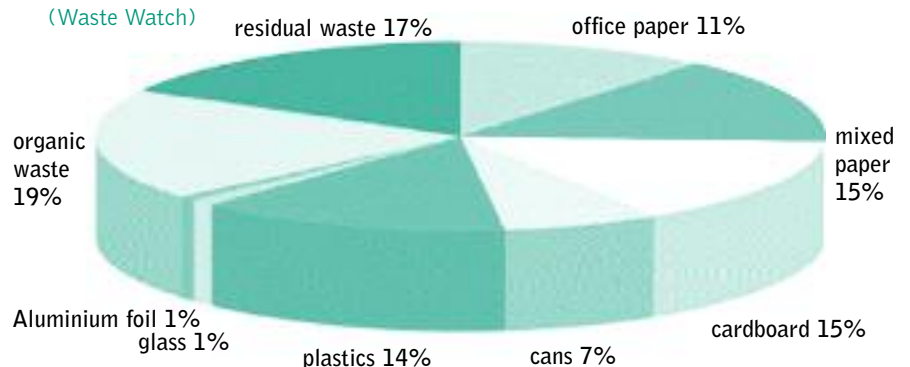
Once you have worked out how best to minimise waste in the school, it's important that everybody knows about it. If the findings are likely to be of wider relevance, try to interest the local newspaper or radio.

For their environmental review **Scoil Bhríde in Kildare** found that paper accounted for 3/4 of all waste leaving the classrooms daily. Students and staff also carried out simple surveys on attitudes relating to litter and waste. A lunch survey was also carried out highlighting streams of waste that could be reduced at source, and litter surveys identified 'grot spots' located within the school grounds. Using this information, the 'Litter Busters' and Wardens target these areas when on litter duty, working in teams of four and recording the amount of litter collected daily.

St. Mary's in Cork found that, when starting the Green-Schools programme, it was easier to track what went into their bin by getting each student to tick a chart placed by all bins in the school. If the students put paper in the bin they would tick beside a picture of paper, if it was a carton they would tick beside a picture of a carton. They monitored this for a week and decided then what needs to be recycled and composted instead of going to landfill. It is a lot cleaner than going through the bins by hand at the end of the week!

Typical School Waste

(Waste Watch)





3.5 Excerpt of sample Action Plan for Litter & Waste

St. Patrick's Senior N.S., Co. Dublin (Litter)

Goal: Reduce the litter levels around the school building and playground		
Action	Person/Group Responsible	Time frame
Set up 'litter squads' to collect and separate rubbish (Monday Mornings).	Sixth Classes (on a rota basis).	Weekly from 1st September 2004.
Carry out a twice yearly 'Litter Blitz'.	Green-Schools Coordinator	From 1st September 2004 (each September and March).
Organise a poster campaign to increase litter awareness among students.	Green-Schools Coordinator.	May 1st 2004.
Arrange for Teams to collect litter after each break (daily).	Teacher on Yard Duty.	Ongoing.
Introduce 'Yellow Bins' in the playground to collect organic rubbish (apple butts, etc.).	Principal and Caretaker	May 1st 2005.

Scoil Naomh Fiachra, Co. Kilkenny (Waste)

Goal: To reduce waste going to landfill by 50%		
Action	Person/Group Responsible	Time frame
Re-establish Healthy Eating Policy in the School.	All Classes.	6 months. Target achieved 20/09/04.
Join Rehab Cash for Cans Programme.	Parents' Council.	2 months. Target achieved 01/03/04.
Establish Battery / Ink Cartridge Recycling in School.	Principal, Parents' Council.	2 months. Target achieved 26/09/05.
Get Paper Shredder.	Principal.	6 months. Target achieved 15/06/05.
Organise Recycling Trolley in Junior Room.	Parents.	December 2004. Target achieved 20/01/05.
Establish what school waste local businesses will take (e.g. bubble wrap, packaging, shredded paper, etc.).	Parents, pupils, teachers.	1 year.
Collect old Clothes for Charity.	Local Community.	Ongoing.
Collect Bottle Tops which are Non Recyclable for charity.	All Pupils.	Ongoing.
Do ongoing Healthy Lunch / Waste Survey	Group 4 (Pupils)	Once per term



3.6 Prevention & Minimisation

Waste prevention or waste minimisation is any measure taken before a product is purchased and used, that reduces the quantity of waste destined for final disposal. This lowers costs in waste disposal, reduces potential for environmental degradation, and helps to conserve non-renewable resources.



Waste Reduction, Demographics and Lifestyle

People are generally living longer and individuals in a family increasingly tend to eat separately. These are facts of modern life. What's the connection with waste reduction?

First, a close link exists between the overall number and average size of households and the quantity of waste produced. Smaller households are now a fact of life in Ireland, and the smaller the household the higher the amount of waste per person. This results in personal items and food purchased in smaller portion sizes, otherwise the products themselves may be wasted.

How Can People Minimise Waste?

Everyone can take measures to minimise waste by using or consuming less. Think about what you buy and ask yourself (and your class) the following questions:

- Do I really need it?
- Am I buying on a whim and will I be bored with it tomorrow?
- Could I borrow it from someone else?
- Can I share it? Can I rent or lease it for a short time and return it?
- When I have finished with it, is there someone else who could use it?
- Is the product durable? Can I buy a product with a longer life-span?



Package Minimisation

Up to 33% of municipal solid waste going to landfill in Ireland is packaging. While some packaging is necessary for hygiene, product protection and control, much current packaging is concerned with marketing and image. Smaller portions need more packaging relative to contents, and therefore more used packaging will arise in the waste stream.

Good packaging helps prevent goods and food becoming spoilt or damaged. The best way to avoid waste is to buy the right amount of what you need and buy it in appropriate packaging.

Top Tips – Prevention & Minimisation

- Use the double siding facility on the photocopier.
- Think before you print – have you spell-checked your document?
- Use a general notice board to circulate information.
- Avoid using disposable products, purchase durable goods rather than short life ones – e.g. rechargeable batteries, low energy light bulbs.
- Try to repair items which have broken rather than throwing them away.
- Buy loose produce when possible.
- Say “NO” to plastic bags, use reusable bags.
- Avoid over-packaged convenience foods.
- Buy products in bulk or in concentrated form.
- Choose products in reusable or recyclable containers e.g. paper, glass, aluminium.
- Avoid using cling film and aluminium foil. Use a box with a lid instead.
- Tick boxes in surveys stating no requirement for further unsolicited mail.





3.7 Re-use

The recycling of waste is something that we can do when an item has reached the end of its life, but before we consider recycling, we should look to see how to reduce our waste or even re-use it. Re-using what we already have requires little extra energy and creates little extra pollution.

It makes sense not to throw something away when with a bit of work it can be restored and re-used. Even if you no longer have



Top Tips – Re-Use

- Bring your own shopping bags (e.g. cloth bag, rucksack) to the supermarket.
- Avoid buying disposable products.
- Take old magazines to your local doctors' or dentists' surgery.
- Use old bottles and jars for storage.
- If you have to use batteries, use rechargeable ones whenever you can.
- Re-use envelopes – purchase re-use labels.
- Use refill pack of detergent and other products when available.
- Re-use plastic bottles – cut them in half to use as vases, desk organisers or for growing plants.
- Leave a box for scrap paper by the photocopier.
- Find out if your ink jet printer cartridges and photocopier toners can be refilled and reused.
- As outlined earlier reusable lunch boxes and drink containers cut down on litter and packaging waste.

The students in **Scoil Cholmcille Junior National School (Dublin)** plant potatoes in old tyres, carrots, spring onions and radishes in large mineral bottles and plastic milk cartons, lettuce in old fish boxes, sunflower seeds in yoghurt containers and nasturtiums in an old doll's cot. For lunches the students use re-sealable bottles and re-usable airtight containers rather than disposable wrappings.

a need for a certain item, it may be of use to someone else. Items like old bicycles, toys, books and clothes could be sold or given away to charity shops or friends. *Don't forget to close the loop by buying what you can from charity shops.*

Composting

A large percentage of school waste is composed of organic material. Compost forms as a result of the natural breakdown of organic material such as vegetable peels and cut grass. Making your own compost heap or using a compost bin speeds up this process under controlled conditions and the finished product can be used as a soil conditioner or surface mulch. Your Local Authority should be able to provide you with more detailed information and also where to get a compost bin. The following is just a quick outline of composting.

What can be composted?

All types of vegetable and green waste can be composted. In fact, the greater the variety the better the compost.

- Uncooked kitchen waste: coffee grinds, tea leaves, egg shells, old fruit and vegetables, and vegetable peelings. Avoid cooked foods including bread as these can attract vermin.
- Garden waste: leaves, grass cuttings (small amounts) and prunings.
- Other items: cardboard and newspaper, herbivorous animal manure, seaweed, wood shavings and newspaper ash.



Materials that will not decompose, e.g. metal, plastics, glass, synthetic textiles, should not be placed on the compost heap. Leaves of horse chestnut, poplar, olive, pine and conifers should also be avoided as their leaves are too acidic.

Worm bins are containers housing a colony of special types of worms and are ideal for schools with no gardens as they produce only a small quantity of compost and liquid, which forms a concentrated plant food. Your Local Authority Environmental Education Officer will also have further details.





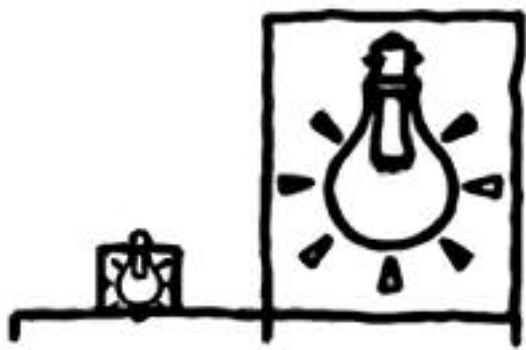
3.8 Recycle

Why Should We Recycle?

Any materials or products that can no longer be re-used should be recycled where possible. This can be both economically and environmentally advantageous. Recycling can create money and jobs, makes use of waste materials and in many cases requires less energy input than production from scratch.

Recycling can also help save materials. For example, making plastic from old recycled plastic will reduce the amount of oil we use. Finally, if we recycle our waste, less waste will end up in landfills, most of which are already under a lot of pressure.

Energy needed to make an aluminum can



Recycled Can

Non-Recycled Can

The total quantity of waste consigned to Local Authority Landfills in Ireland has doubled in the last 15 years. While waste prevention and minimisation are the first steps in reducing our waste mountains, recycling is paramount if waste management in this country is to come in line with the rest of Europe. In Ireland there are currently recycling bring sites dealing with waste products such as glass, paper, cans and plastic. These materials will be discussed in more detail later in this section.

Recycled Products

Many people believe that recycled products are both inferior to and more expensive than virgin products. Advances in technology have meant that recycled products are usually made to a high quality and at a similar standard and price as non-recycled products. Many goods, such as glass bottles and jars, aluminium cans and cardboard boxes contain significant amounts of recycled material even though no recycled content is stated.

There is currently no standardised label or symbol used to denote recycled content. The mobius loop can mean both recycled content and that the product is recyclable, while the German green dot mean only that the manufacturer has paid a fee towards packaging recovery. Many “green” symbols such as the EU eco label often only indicate “environmental friendliness”, and may not necessarily mean that the product contains recycled material.

Mobius Loop



Green Dot



EU Eco Label



Closing the loop

It is important to remember that recycling has not actually taken place until we buy products made from recycled materials. Some points to remember when choosing products:

- A recycling symbol on a product may only indicate that the material used is recyclable.
- Consumer power does work – put pressure on your local shops and supermarkets and ask them if they sell recycled products.
- Just because a product bears the recyclable symbol this does not mean that there will be recycling facilities for this product in your area. Contact your Local Authority to find out what is available in your area.



PAPER

On average, every person in Ireland uses about 170kg of paper a year – between one and two trees each. It is widely believed that the paper industry destroys rainforests. This is not true, as most paper is made from trees grown in managed forests which are replanted after felling. Recycling paper can reduce harmful impacts on the environment through the economic use of resources and the minimisation of waste.

Irish papermills depend on wood pulp and waste paper, in approximately equal measure. Waste paper is sorted into quality categories by waste paper merchants. High quality wastepaper has longer fibres with small amounts of mineral filler and ink: eg, white writing, printing and computer stationery. Lower grade waste paper includes newspapers, paperback books and packaging papers.



Newspaper, office stationery, computer print-outs, and cardboard are recycled in Ireland to produce writing paper, toilet rolls, egg boxes, cardboard, horticultural products and animal bedding. Every tonne of recycled paper saves 17 trees, 380 gallons of oil, 7000 gallons of water and enough energy to heat an average home for about six months.

We throw away far more waste paper than we recycle. If we want to recycle more waste paper then we must buy products made from that waste. An alternative use for waste paper is to

burn it to raise steam for electricity generation. This happens at a number of new, high-technology, low emission incinerators and there are plans for more.

A school paper audit (7-18 years)

As a first step to reducing environmental impacts your school will need to have a clear idea of what paper it uses. Students can record all types of paper products used in the school, whether they are made from recycled fibre, and the quantities used. They will need to talk to teachers and support staff and have access to orders and other records. They may also need to contact suppliers and manufacturers.

Examination of paper goods could result in a display of the materials available as recycled fibre or virgin fibre products. This may change school purchasing policy and influence home shopping habits.

It may be possible to switch to recycled fibre for a range of school paper products. There may also be acceptable lower quality, mechanical pulp based alternatives.

Students should investigate how efficiently paper is used, for example:

- Are photocopies always backed?
- Could internal memos be posted on notice boards rather than individually distributed?
- Does the school have small sheets of letterhead for brief letters?
- Is scrap paper (with one clean side) made available for rough work?
- Is it recycled after use?





CAN RECYCLING

About 250 Million cans are sold in Ireland every year and only 20% is recycled (compared to 55% world-wide). Therefore each person uses an average of 1.3kg of aluminium cans per year. Cans can be made from aluminium or steel or a mixture of the two. Aluminium and steel are very different metals. Aluminium accounts for 1.2% of the household bin.



Aluminium is produced from bauxite, a clay-like ore that is rich in aluminium compounds. The aluminium is only found as a compound called alumina, which is a hard material consisting of aluminium combined with oxygen. This alumina has to be stripped of its oxygen in order to free the aluminium. The alumina is dissolved in a molten salt at a reduction plant and a powerful electric current is run through the liquid to separate the aluminium from the oxygen. This process uses large quantities of energy.

Although aluminium is not a scarce resource, turning old aluminium cans into aluminium sheet uses only 5 per cent of the energy and produces only 5% of the CO₂ emissions as compared with making aluminium sheet from ore. Aluminium can be recycled indefinitely, as reprocessing does not damage its structure. Aluminium is also the most cost-effective material to recycle. Energy saved from recycling a can will provide 3 hours of TV!

Virtually all food cans are made of steel. Steel is also mined from an ore. Iron ore is plentiful but it too is usually combined with oxygen or sometimes carbon or sulphur. The iron ore is stripped in a blast furnace to reduce it to pig iron that can then be used in steel production. Steel food and drink cans can be recycled, either through collection bins, or by magnetic extraction of steel from mixed refuse or refuse incinerator ash. Recycling seven steel cans

saves enough energy to power a 60-watt light bulb for 26 hours!

Recycling Empty Cans

The aluminium can is the most recycled and recyclable consumer product package on the market today. Empty aluminium cans that are recycled are often back on grocery store shelves in as few as 60 days, saving energy, reducing litter and conserving natural resources. Aluminium cans can be collected as a fund raising activity. There are approximately 56 cans in a kilo. It is easy to separate steel from aluminium cans because aluminium is not attracted to magnets.

Pupils can consider establishing a collection scheme. Analyse the cans in school waste to see what proportion are all-aluminium and estimate collection rates and likely income. Pupils can design and make a can crusher. They can go on to calculate the space saved by crushing cans.

Top Tips

- Check out www.repak.ie. Go to the schools section and learn about the life cycle of the aluminium can

Glanmire Community College in Co. Cork commenced a can recycling scheme in 2002. The students carried out a survey to identify can usage in the school over a week. Separate can bins and bags were obtained. Awareness was raised among students with a slogan & poster competition. A student rota was established to sort cans and monitor their usage in the school. Students log every can the school recycled and actively manage the 10 recycling bins in the school ensuring they are clean, emptied and that fresh bins are always in place.

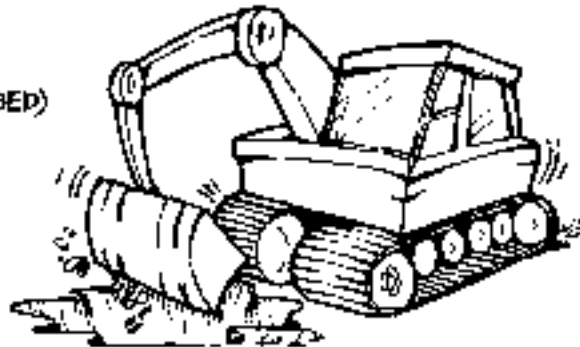
Each recycling bin is placed in close proximity to where each of the year groups socialise during their break times. The use of see through bags provides a visible cue for all students to readily identify. A 'Can Card' system was set up to encourage students to put their empty cans in recycling bins – students given a card and each time they put an empty can in correct bin the card is stamped. Once the card is full i.e. 20 cans recycled, they are rewarded with a free can of their desired beverage. Graphs of number of cans recycled each month are displayed on the notice board.



Aluminium Can Production and Recycling

INPUTS
(RESOURCES USED)

ENERGY
(DIESEL)



OUTPUTS
(WASTES PRODUCED)

NOISE
DUST
CARBON DIOXIDE

MINING THE ORE

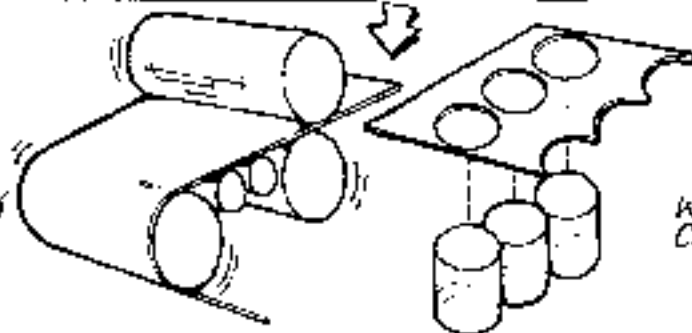
ENERGY
(OIL
ELECTRICITY
GAS)
CHEMICALS
WATER



MUD
CARBON DIOXIDE
NOISE

PROCESSING THE ORE

ENERGY
(OIL
ELECTRICITY
GAS)
WATER



WASTE WATER
CARBON DIOXIDE

SHAPING THE METAL

ENERGY
(OIL
ELECTRICITY
GAS), WATER,
FLAVOURINGS, LIQUID SYRUP

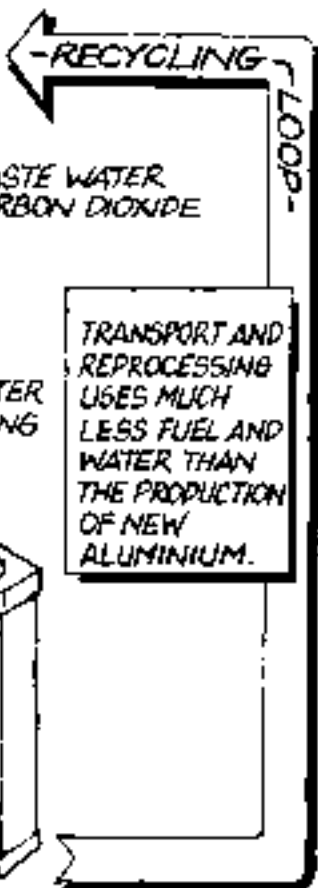


WASTE WATER
DAMAGED CANS

FILLING THE CAN



TRANSPORT AND
REPROCESSING
USES MUCH
LESS FUEL AND
WATER THAN
THE PRODUCTION
OF NEW
ALUMINIUM.





PLASTICS

Plastic accounts for 12.4% of household waste in Ireland. It is made from crude oil – a valuable and limited non renewable resource. In Ireland alone it is estimated that about 120,000 tonnes of plastic waste are produced every year. All types of plastic are recyclable, but with over 50 different groups of plastics one of the main obstacles to recycling is sorting. A marking code has been developed to aid recycling and identify the six main types of plastic:



PET - Polyethylene terephthalate. Fizzy drink bottles and oven-ready meal trays.



HDPE - High density polyethylene. Bottles for milk and washing up liquids.



PVC - Polyvinyl chloride. Food trays, bottles for squash, mineral and shampoo.



LDPE - Low density polyethylene. Carrier bags and bin liners.



PP - Polypropylene. Margarine tubs, microwaveable meal trays.



PS - Polystyrene. Yoghurt pots, foam meat trays, vending cups, protective packaging for electronic goods and toys.

The range of products made from recycled plastics includes polyethylene bins liners and carrier bags, PVC sewer pipes and flooring, fibre-fill in duvets, fencing and garden furniture, office accessories, seed trays and building insulation board.



Facts and Figures about Plastic

- Recycling plastic saves 2/3 of the energy required when producing plastic from raw materials
- Every Plastic bag we throw away stays buried in the ground for up to 500 years before it finally breaks down.
- It takes about 27 recycled soft drink bottles to make one fleece jacket.
- 150 Plastic bottles make up one mat

- One tonne of plastics is equivalent to 20,000 two litre drink bottles or 120,000 carrier bags.
- Plastic consumption is growing about 4 per cent every year in Western Europe.
- If you lined up all the polystyrene foam cups made in just 1 day they would circle the earth
- It takes 5 PET bottles to make 1 square foot of polyester carpet, an extra large t-shirt or filling for a ski jacket (www.repak.ie)

GLASS

Approximately 100,000 tonnes of glass are used every year in Ireland.



Glass accounts for 7.5% of household waste in Ireland. Glass containers can be recycled time and time again without any deterioration on quality. The main use of 'cullet' (crushed glass) is for the manufacture of new bottles and jars. However, it can also be used in concrete, roadbeds, fibreglass, ceramic tiles, costume jewellery etc. Recycling glass conserves energy (recycling one glass bottle saves enough energy to light a 100-watt bulb for 4 hours or runs a TV for 15 minutes) and requires 80% less raw materials than virgin glass (every 1,000kg of recycled glass saves 1,200kg of raw materials).

BATTERIES

While the facilities for recycling lead acid or car batteries are continually growing, the infrastructure for recycling smaller domestic batteries is at the initial stages of development. The single life or disposable battery is a very inefficient system and preference should be given to using appliances that can be plugged into the mains electricity supply. If batteries must be used, use rechargeable ones.



RECYCLING OTHER MATERIALS

In some cases it may be possible for other materials to be re-used or recycled:

- Printer and photocopier toner cartridges (can be refilled and re-used).
- Fluorescent lights.
- Computer equipment and electronic products.
- Textiles.
- Cooking oils.



3.9 Setting up a Recycling Project

Step 1 Collect Information

The local authority can be contacted for a list of recycling collection points and recycling companies in the area. Find out when and how often collection takes place. Find out how the collected recyclables are to be presented for collection, e.g:

- Separating paper into magazines, newspaper, cardboard, etc.
- Separating glass bottles by colour, removing labels and tops and cleaning if necessary.
- Separating cans by checking if they are aluminium or not.

Storage will need to be provided for the collected items.

Step 2 Decide what to recycle

Deciding on what you can recycle is the next decision to be made. Drinks cans, glass bottles, paper, batteries, plastic and clothes can all be recycled. Depending on collection points



and permission you can decide to recycle some or all of these. Batteries contain toxic metals which are damaging both to human health and to our environment. Recycling batteries means that these toxic metals can be neutralised and the plastic covers recycled.

Step 3 Collection

Collecting the recyclables involves placing clearly marked recycling bins in accessible areas that people will use. A canteen or lunch area is ideal for collecting cans and bottles. You can use old empty containers as bins, for example, plastic drums, metal drums, large strong plastic bags, etc. or perhaps you could get a local sponsor to provide new bins. Make sure the bins are strong enough for the purpose, are tidy and do not cause any obstruction.

Step 4 Raise awareness

A successful recycling project will need the support of the whole school or community so informing everyone about the project is very important. Posters advertising the project are the best way of achieving this. You could even run a poster competition with a recycling theme and use the winning posters to advertise the recycling bins!

Issues to Remember:

- *Capital costs* – mainly the cost of additional bins. This is obviously minimal if they are provided.
- *Running costs* – this will depend largely on how recycling is incorporated into existing operations. However in the long term cutting down on waste should save the school money.
- *Space and access for bins* – containers should be suitable for purpose, easily accessible, and should not cause any obstruction.
- *Materials available* – should the school encourage pupils and parents to bring recyclable material from home?
- *Allocation of responsibility* – make sure that everyone involved knows what his or her roles and responsibilities are.

Top Tips– Recycling

- Find out where your local recycling centre is and what facilities they offer.
- Offer to take your neighbours bottles, cans and waste paper along with your own.
- Buy products made from recycled materials.
- Clean and rinse bottles and tin cans.
- Motor oil, fuel oil, car batteries, household batteries and paint thinners should all be recycled rather than poured down the drain or dumped in the rubbish.
- Set up a recycling project in your school and encourage the whole school to participate.





3.10 Litter & Waste and Climate Change

Reducing, reusing and recycling as carried out for the Litter and Waste theme, plays a vital part in reducing our greenhouse gas emissions.

Whilst waste management activities alone account for just 2.5% of Ireland's CO₂ emissions, the overall climate impact of the materials we use is much greater. In fact the products we use are responsible for the production of CO₂ at each stage of their life cycle from raw material extraction, right through to final treatment or disposal.

The manufacture of materials such as paper, cardboard, glass, plastics and the aluminium found in drink cans consume natural resources and energy and are responsible for a large proportion of our CO₂ emissions.

“Reduce, reuse, recycle” is our mantra for the Litter and Waste theme, but also plays a vital part in reducing our CO₂ production. By reducing, reusing and recycling we cut down on the need for new raw materials, preserving valuable resources and saving the energy consumed in their extraction, manufacture and transportation. Saving energy also leads to a reduction in CO₂ production.

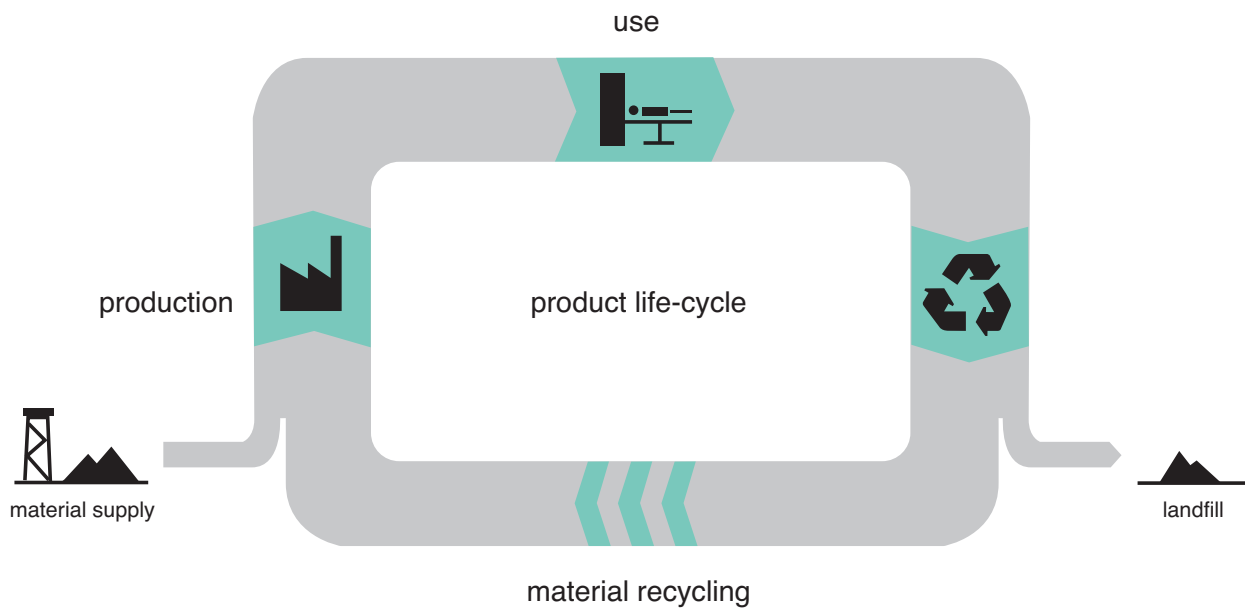


Figure: Product life-cycle and CO₂ emissions

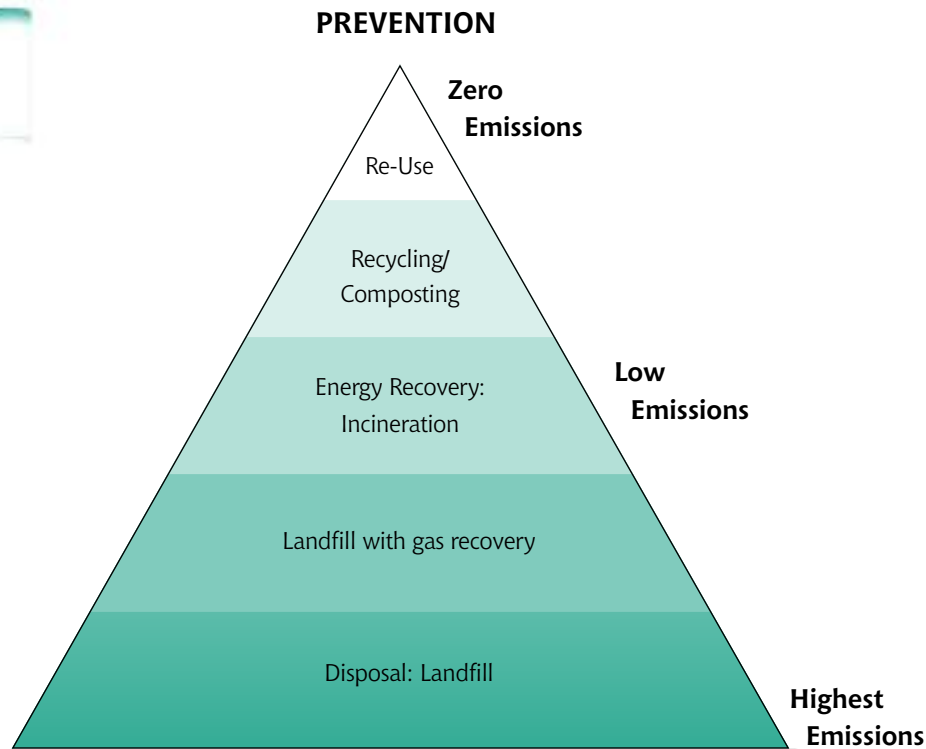


Figure: Waste Hierarchy and CO₂ Emissions

Re-use: By reducing our consumption of materials and products we eliminate all of the CO₂ produced throughout their life-cycle. Re-using eliminates all CO₂ emissions apart from those associated with initial production.

Recycling: Recycling cuts down on the need for new raw materials, preserving valuable resources and saving the energy consumed in their initial extraction, transportation and refinement, resulting in substantial CO₂ reductions.

Composting: Composting of garden and kitchen waste produces CO₂ but prevents the production of methane which is 21 times more powerful as a greenhouse gas.

Incineration: Incineration of waste produces CO₂ but eliminates the production of methane associated with the landfill of mixed waste.

Landfill with gas recovery:

Landfill: Mixed waste contains organic matter such as paper and food waste, when this material breaks down in landfills the greenhouse gas methane is produced. Methane

is 21 times more powerful than CO₂ as a greenhouse gas. Landfill gas consists of 50-60% methane and 35-40% carbon dioxide. In Ireland the gas produced in landfills is either flared to the atmosphere or used to generate electricity. By burning the methane produces CO₂ which has a lower global warming potential.

WHAT YOU CAN DO!

Reducing and reusing materials such as paper, plastic bottles and cans eliminates the energy used recycling the materials, reducing CO₂ emissions even further!

It is important to also remember that buying recycled products or items that are durable and can be easily repaired or reused, avoiding unnecessary packaging, and purchasing only what we need all helps in reducing CO₂ production. As well as this, composting organic waste helps prevent methane, a powerful greenhouse gas that is otherwise released from landfills. Further information on waste related greenhouse gas emissions can be found at www.change.ie



Section 4 Environmental Review

The terms 'environmental review' and 'environmental audit' are becoming increasingly common as more companies and local authorities commission or carry out surveys to assess the environmental impact of their activities. A comprehensive survey of such serious intent is usually accompanied by a statement that specifies planned improvements, their timescales, and also an administrative structure to allocate responsibilities, monitor progress over time and evaluate success.

The Green-Schools environmental review is an open-ended checklist of all aspects of a school's impact on the environment, in this case looking at litter and waste. The review also has an educational function, whereby the process of gathering data raises awareness and gives you a basis for developing your action plan.

The checklist

Each question in the checklist can be answered 'yes' or 'no'. 'No' indicates that improvement is possible. Subsequently selected sections can be tackled in ways that will quantify the answers, so targets for

improvement can be set and monitored.

Full quantification can be difficult or impossible but it is often easier to give actions a preferred timescale, such as 'immediate', 'this term', or 'review next year'. This is a useful planning tool. Space is available on the right of each question for making notes on the timescale.

After the checklist

The checklist includes some ideas for action. These are not intended to be comprehensive; they are starting points for further planning. The questions themselves will also suggest further ideas. After completing the checklist, have a look at Section 2.3 and Section 3.4 for ideas on carrying out litter and waste surveys.

Remember, it is vital not to take on too much. Small and successful actions build confidence and encourage more. The checklist will raise many issues and indicate a wide choice of areas that need attention, but they should be discussed widely, put in the context of other factors (time, money, skills), and grouped by priority. You should allocate responsibilities, as well as the monitoring and publicising of progress. The selected goals will have a much greater chance of success, and can then be fitted into the curriculum.

4.1 Litter Review

Does your school have a litter problem?

Does the school have a policy on litter?

Is the school clean inside?

Is the school clean outside?

Are there any areas where litter is particularly bad?

Are there any times of day/week where litter is particularly bad?

YES/NO	ACTION NOTES: LITTER



Does the litter mostly originate from inside the school?

Are there enough litterbins inside the school?

Are there enough litterbins outside the school?

Are they in the right places?

Are certain types of litter more common than others?

Has your school ever carried out a litter survey?

Do you take part in local (e.g. Tidy Towns) or national events (e.g. National Spring Clean) tackling litter?

Is the topic of litter incorporated into the school ethos / curriculum?

Has the school ever been visited by a Litter Warden from the Local Authority?

YES/NO	ACTION NOTES: LITTER

Ideas for Action

- **Organise litter patrols to encourage students to put their litter in the bin.**
- **Divide playground area so each class is responsible for a section in which they focus green activities such as clean-ups.**
- **Organise a poster competition to help raise awareness about the problems of litter both locally and nationally.**
- **Encourage pupils to cut down on litter produced by packed lunches – e.g. using re-sealable bottles instead of cartons or re-usable airtight containers rather than disposable wrappings.**
- **Ask the school caretaker and/or cleaners for advice on how best to tackle the problem of litter in the school.**
- **Contact your Local Authority to organise a visit from a Litter Warden to give a talk about the problems of litter and how best to prevent it.**
- **Get the school and local community involved with projects such as Tidy Towns and An Taisce’s National Spring Clean.**



4.2 Waste Management Review

General

Has your school ever carried out a waste survey? i.e. how much (e.g. bins, bags, etc.) and what types of waste (e.g. paper, plastic) leaves your school for landfill every week?

Are there certain types of waste produced by the school greater in quantity than others?

Could this waste be reduced through prevention / minimisation / re-use / recycling?

Has the school ever carried out specific attempts to reduce the volume of waste produced?

If so, was this successful?

Is the topic of waste and waste minimisation incorporated into the school ethos / curriculum?

Are pupils encouraged to bring values of waste minimisation to the home?

Prevention/Minimisation

Is there a purchasing policy for materials such as toilet tissues, stationery, books, notepaper, etc.?

Are certain products avoided?
e.g. harmful cleaning materials,

Does the school have e-mail addresses / mobile phone numbers for families?

Does the school use notice boards / circulars to give out information to staff instead of individual bulletins?

Do school lunches avoid throwaway materials?

Are long life products chosen over short life ones? Are materials bought in large packs to avoid excessive packaging?
Are copies kept on disk, not paper?

YES/NO	ACTION NOTES: WASTE

YES/NO	ACTION NOTES: WASTE



Section 5 The Future

It is estimated that quantities of waste could increase by four or five times by the year 2025 because of unsustainable consumption, particularly in industrialised nations. Currently, 20% of the world's population consumes 80% of the world's natural resources.

In this booklet, it has been shown that Total Resource Conservation is the right approach. This means conserving energy and materials. In achieving this, source reduction and a variety of recovery and disposal methods all play a part. No single method is right all the time.

But we still do not know all the facts about waste – its exact quantity and composition, for example. Because waste reduction is important, considerable research is currently going on. In a few years' time more information may allow us to set new and better objectives for waste reduction.

Everyone agrees that waste reduction is an important goal. But remember packaging prevents products being wasted, and products are energy- and material-rich too! When we know more about waste, the best environmental solution could well be to replace packaging recovery and recycling targets with an overall waste reduction target. Rather than focus on recycling, this overall target for waste reduction could embrace waste minimisation and any of the recovery methods discussed in this booklet.

A waste reduction aim should also include reducing the wastage of goods. This may sometimes lead to the need for more, not less, packaging, but is better for the environment if it reduces the total amount of resources wasted.

Like many major governments of the world, the European Union is keen to enact legislation that will result in real progress towards environmental improvements. It is as difficult to

enact effective legislation as it is to make real progress in a world of conflicting demands and the resulting compromises. Students could be asked to consider the possible difficulties in drafting legislation on recycling and recovery. What are the positive and negative aspects? How could legislation be improved to be more effective?

It is important to remember that our present choices, both as a society and as individuals, determine the quality of the environment that we will hand on to future generations.





Useful Contact Addresses

ENFO

Environmental Information Service

17 St. Andrew Street
Dublin 2
Telephone: (01) 888 2001
or LoCall 1890 200 191
Fax: (01) 888 3946
E-mail info@enfo.ie
Website: www.enfo.ie

The ENFO centre has a large range of material in various formats from leaflets to interactive computer models and an extensive library of material on paper, microfiche and computer disk.

Department of Education and Science

Marlboro Street
Dublin 1
Telephone: (01) 8896400
Website: www.education.ie

Department of Environment, Heritage and Local Government

Custom House
Dublin 1
Telephone: (01) 8882000
LoCall: 1890 20 20 21
Website: www.environ.ie

Local Authority

Environmental / Local Agenda 21 Officers

Many authorities have officers who are working on waste reduction plans, environmental improvement schemes or developing Local Agenda 21 projects. These officers usually work with schools.

EPA

Environmental Protection Agency

PO Box 3000
Johnstown Castle Estate
County Wexford
Telephone: (053) 91 60600
Fax: (053) 91 60699
LoCall: 1890 335599
Website: www.epa.ie

Repak

Repak Limited
Red Cow Interchange Estate
1 Ballymount Road
Clondalkin
Dublin 22
EMail: info@repak.ie
Tel: 00353 1 467 0190
Fax: 00353 1 4670197

www.nationalspringclean.org

www.greenhome.ie

www.greenpages.ie

www.jumbletown.ie

www.ecoshop.ie

www.cultivate.ie

www.ipcc.ie

www.sustainable.ie

www.change.ie

