Eco-Schools Inspiration Waste (Resource Efficiency)











Contents

Waste (Resource Efficiency): Introduction	03
Case Study: Fairview Primary School	04
Curriculum Links and Skills	11
Primary Activity Ideas	12
Post-Primary Activity Ideas	14
Other Links	16

Click on the link to go to the page

Click on the banner within this document (top left) to return to the Contents page







I HAVE LOVED BEING PART OF THE ECO-COMMITTEE AND IT IS A GREAT HONOUR TO BE CHAIRMAN THIS YEAR. I HAVE HAD SO MANY OPPORTUNITIES TO DO THINGS MOST PUPILS IN THE SCHOOL DON'T GET TO DO OR BE PART OF. LEADING THE WASTE PROJECT, AND BECOMING ZERO WASTE, HAS DEFINITELY BEEN MY FAVOURITE PART. THANK YOU TO ECO-SCHOOLS FOR ALL YOUR HELP AND CHALLENGES!

JAKE GORDON, P7, ECO-COMMITTEE CHAIRPERSON (2013-2014)

Introduction

When studying the Waste topic and waste minimisation it is important to think about resource efficiency. Resource Efficiency means using the Earth's limited resources in a sustainable manner while minimising impacts on the environment. It allows us to move away from simply managing the waste we produce in a more environmentally friendly manner to preventing waste and managing resources i.e. using resources in the most effective way while minimising the impact of their use on the environment

To be Resource Efficient, it is important to focus on waste prevention first i.e. reduce and reuse followed by increased recycling. Recycling can help save materials and energy, but cutting down on the waste in the first place is even better.

Getting started

Minimising waste has a number of benefits for schools. Depending on the waste disposal system in your area, schools can save money on disposal costs by reducing the amount of waste they produce and may also be able to make money by selling materials to be recycled. Paper is a good candidate for reuse. Are both sides of sheets of paper used before being thrown away? Reducing waste may involve reviewing the types of resources schools buy and considering ways of cutting down. Councils are willing to support recycling initiatives in schools, because it helps lead to a reduction in waste to landfill.

To provide you with some ideas on how to approach the waste topic in your school this topic chapter includes: a case study that aims to provide inspiration, contacts for organisations that play a role in waste reduction and efficiency, and links to the Northern Ireland Curriculum that may prove useful for schools in planning your Waste Action Plan. It may also be an idea to contact

your local council or some of the Eco-School partner organisations who may have some ideas on local projects that your school could take part in.

The Waste topic may be used as one of the three topics covered for the Green Flag Award.



INVESTING BACK INTO OUR SCHOOLS
AND COMMUNITY ORGANISATIONS
CONTINUES TO BE AN IMPORTANT LINK
IN OUR RECYCLING CHAIN. OUR CASH
FOR CLOBBER FUNDRAISING AND
RECYCLING INITIATIVE FOR SCHOOLS
HAS GROWN SIGNIFICANTLY OVER
THE YEARS AND HELPS SCHOOLS

RAISE 'UNBUDGETED' FUNDS.





School: Fairview Primary School, Ballyclare	Teacher: Neil McAllister
No. of pupils: Over 500	Eco-School status: Green Flag

Background Information

Q: Why did you choose Waste as an Eco-Schools topic? What was your Action Plan?

A: Fairview Primary School is top of the class when it comes to recycling school waste!

Our school was the first 'Zero Waste' primary school in Northern Ireland which means that **none** of our waste is sent on to environmentally damaging landfill sites. We achieved our impressive zero waste target as a result of a sustained and determined effort by the pupils and staff to improve recycling levels and reduce the amount of waste we produce. We are supported by an innovative partnership with ISL Waste Management in Newtownabbey and Newtownabbey Borough Council.

In December 2012, a school bin audit showed that only 22% of waste went into recycling bins. By March 2013, the work of committed waste watchers at the school resulted in the recycling figure more than trebling to 74% and as of September that year **none** of the school's rubbish is taken to landfill.

Supported by Keep Northern Ireland Beautiful, Fairview Primary has taken part in a number of exciting and

important environmental projects. These have made a significant contribution to the reduction of paper and plastic production at the school as well as ensuring that the pupils and staff think about the waste they produce and how it can be better dealt with.

For example, our school's Eco-Committee started a campaign to get more people to sign up to the Mailing Preference Service. The Rethink Waste Project resulted in 540 family members and friends of the pupils signing up to be taken off the lists. Moreover, the Eco-Committee launched its own branded reusable bag to try and encourage people to reuse their bags. Fairview's Eco-Committee led school assemblies and visited classrooms to explain what was happening and how everyone could play their part. Waste paper products were used to design posters and empty plastic bottles were used to create bird feeders for the garden. Pupils were constantly stimulated to think about their waste and how it could best be reduced, reused or recycled.

Fairview's Waste Action Plan actions are developed through meetings of the committee and through the weekly Eco-Club. They are detailed, with timescales and targets, and are shared via assemblies.

Here is an excerpt from our action plan:

Fairview Primary School Waste Action Plan

Action	Target/measure
Measure what is currently used by the school	Reduce amount of landfill bagsRecord amount of bottle and paper bags
Promote recycling throughout the school	 Posters displaying recycling opportunities currently available: paper, plastic, clothes, mobile phones, ink cartridges, food waste. Presentations to assembly and on-going reinforcement in assembly. Eco Warriors webpage on school site
Reduce litter around the school	Provide new bins for playgrounds
Monitor bins in school	All bins clearly labeledEnough bins available







Case Study

Click here to view the Eco-Schools Action Plan template



Participate in Rethink Waste project	Reduce paper and plastic usageCommunicate with parents
Participate in Zero Waste Pilot Scheme	 Reduce landfill waste Increase amounts of recycled items Introduce food recycling Plan Waste Week in school
Witness good practice	■ Visit to industry ■ Visitors to school
Encourage reuse through school fairs	Source of income for Eco-CommitteeOpportunity to talk to parents about what we do and want to do

Q: How do you integrate Waste into the curriculum?

A: Our school has a named individual responsible for environmental and sustainable education and curriculum work on waste is integrated into our planners across all year groups. For a recent visit by the Environment Minister, Mark H Durkan, we put up lots of display boards showing the work we have completed. Members of the Eco-Committee discussed with the minister all that they had learnt and accomplished.

All of Fairview's year groups have been involved in Waste activities. For example:

- Primary 4 litter pickers helped the pupils realise the problems of litter. Children were split into groups and came up with a team name and logo. They designed certificates to give to the most eco-friendly classes;
- Primary six, as part of their WAU theme called 'Planet Tea', had pupils researching waste and finding out about the process of recycling for products such as paper, aluminium and glass;
- Primary 1 built an igloo out of 2 litre milk cartons. The Eco-Committee assisted with this and helped educate the children about the 3Rs!



For a recent visit by the Environment Minister, Mark H Durkan (below), we put up lots of display boards showing the work we have completed (above). Primary 1 built an igloo out of 2 litre milk cartons (right).









Case Study

Q: How do you co-ordinate with other teachers to ensure a whole school approach?

A: We have a very committed Eco-Committee. In fact, in June 2013, we won the Eco-Schools and SSE Airtricity 'Eco-Committee of the Year Award'. Our Eco-Committee, made up of three teachers, pupils, governor and council member, meets at least once every half term; minutes are kept and displayed for all to see on our Eco-board. As well as our noticeboard we have assemblies, an Eco-Rap, a T.V. screen for events and eco-information, and an Eco-Club to ensure a whole-school approach. We also run an ECOlympics, have seasonal fairs, write reports for local press, participate in BIG Spring Cleans beyond our school gates, and involve our pupils' parents.



Fairview Primary School main Eco-board left. The Eco-class of the week award is particularly motivating for pupils and teachers alike below.

Q: How did you encourage pupil participation? How did they have ownership of the project?

A: We encourage pupil participation at Fairview via varied means. Our Eco-Committee encompasses of approximately 15 P.5-7 eco-enthusiasts. We have a chairperson, vice chairperson, head ELF (Energy Lookout Force), secretary and a publicity person. Fairview also has various teams which match our current action plans. For example we have: a Waste Team, Biodiversity Team, Energy Team, Transport Team and Water Team. Additionally, there are recycling monitors in each class. The Eco-Class of the week award is particularly motivating for our pupils and teachers alike.

WARRIORS

SAVING OUR PLA

In Fairview the whole school collaborated to develop our Eco-Code in the form of a rap. All of our pupils know and love to perform our Eco-Rap.

THE FAIRVIEW ECO-RAP

(Chorus)

We're all here in Eco-Schools
To save the world, you know the rules
Reuse, recycle, conserve and grow
Fairview is showing the way to go!

Zero Waste is this year's aim

Just bin it - NO! - we're all to blame!

Reduce what we can, recycle the rest

In Fairview we know we can pass the test.

Recycling paper, bottles and card We all can do it, it's not that hard! Even clothes, phones, ink and food If you don't recycle, well you're very rude!

(Chorus)

There's no more rubbish buried in the ground Recycling bins can only be found Our pupils know what they have to do Green bin for paper and bottles are blue.

All our waste has been sorted for good And the council will still be taking our food Working together we can pass the test Reduce what we can, recycle the rest.

(Chorus)







During Implementation of Eco-Schools Inspiration case study

Q: How will pupils/whole school benefit from the Eco-Schools Inspiration project?

A: Although the school now sends 0% of its waste to landfill, we still have clear targets set to improve on the waste we produce in school. We want less waste – reducing what we can but ensuring we reuse before the final step of recycling. These are good habits for life and ones our pupils are definitely taking home. The project will enable us to produce more signage about the school, making recycling bins clear to see.

BEING PART OF THE ECO-SCHOOLS
PROGRAMME HAS HAD SUCH A
POSITIVE EFFECT ON OUR SCHOOL. THE
PUPILS WHO HAVE LED THE PROJECTS
HAVE GAINED GREAT EXPERIENCES
WHICH WILL UNDOUBTEDLY PREPARE
THEM FOR SECONDARY AND THIRD
LEVEL EDUCATION, AS WELL AS
THE WORLD OF WORK BEYOND.

MR MCALLISTER, ECO-SCHOOLS COORDINATOR

Q: What is your overall aim and what actions are you going to take?

A: Our aim is to reduce the waste created in school and to ensure what waste is created is recycled as efficiently as possible. We aim to educate our pupils in the importance of the three Rs (Reduce, Reuse and Recycle) and make sure the habits they develop in school are reinforced at home with their parents and taken into their next school.

We will complete a waste audit to monitor the progress of our Zero Waste project. With the results, we can target areas that need improved and educate classes/ year groups that are not meeting our high standards!

Signage will be a key element within the project. We have created a number of recycling stations around school. Bins include plastic waste, food waste and cartons/plastic bottles. We want to produce signage, designed by our own pupils, to highlight the correct bin for any given waste.



Q: How are you going to spend the £500 funding?

A: As a means of making dealing with waste more fun, we will purchase a Rolly Pig. This is for uncooked food waste. Signage will be designed by pupils and turned into posters by a local business and some professional signage will be purchased. A portable pull up sign will be purchased displaying the Eco Committee's Eco Rap.

Q: Are you going to receive any support or resources from parents, staff or outside agencies?

A: This project has formed part of our overall environmental project this year. We have received extensive support for this work from parents through our Blitz Days (one per term). A member of our Board of Governors joins us each week at our Eco Club where we implement our action plans.







Reporting on impact of action(s)

Q: Did you encounter any problems and, if so, how did you overcome them?

A: The biggest problem was working with companies who do not quite work at the speed schools do! Responses from companies with prices could take up to a week sometimes and this was frustrating. The key to the waste audit was being organised. We completed two waste audits last year so we knew what to expect.

Q: Is there any advice you could offer to schools undertaking the Waste topic? Do you have any useful suggestions for other teachers embarking on the topic?

A: Completing the waste audit last year certainly opened our eyes. We thought we were doing OK with recycling but found we were actually performing quite poorly. Speaking to pupils in assembly was an important first step as we needed everyone on board before embarking on any sort of project. We talked about weights of waste in terms of elephants – this helped create a better picture in pupils' minds of what we wanted to achieve together as a school. Moreover, in Fairview, we feel it is a good idea to link waste and litter together as topics.



IN MY THREE YEARS IN FAIRVIEW PRIMARY SCHOOL, IT HAS NEVER CEASED TO AMAZE ME WHAT OUR ECO-COMMITTEE IS CAPABLE OF. THE CHILDREN INVOLVED HAVE GAINED A GREAT DEAL BUT THE SCHOOL, AS A WHOLE, HAS COME A LONG WAY. ALL THAT ECO-SCHOOLS STANDS FOR ARE THE VALUES WE NEED TO INSTIL INTO OUR YOUNG PEOPLE TODAY.

MRS MATTHEWS, PRINCIPAL

Q: Has doing this topic driven other Eco-Schools ideas? What are your future plans regarding Eco-Schools?

A: At the recent Environmental Youth Speak Competition, pupils from Fairview Primary School came first and second in the heats. One of our pupils will now be representing Newtownabbey Borough Council at the Finals. This further indicates how ingrained our methods in school are with our pupils.

We are involved in all ten Eco-Schools topics in a variety of ways. We want to develop our school's grounds as an outdoor classroom, providing stimulus for every teacher to develop their lessons under the sky. That work is on-going. Moreover, we would like to really focus on Transport next year. We have a major traffic congestion issue at our school gates every day. When we opened in 1980, Fairview had 5 classes; we now have 21. The parking space for parents has not grown at all so we want to think innovatively as to how we can alleviate this problem. We hope to develop a link with Sustrans and the Safer Routes to School initiative. We will have our annual Green Mile week soon, coinciding with the Eco-Schools and Translink Travel Challenge. We would love to gather funding for a bike rack or Cycle Pods so more children will be encouraged to cycle to school. All a challenge but, as ever, we are up for it in Fairview Primary School.





Resource Efficiency

Data collection is very important at Fairview in order to monitor our waste efficiency each week. Here is an example of some of our data collection using the Eco-Schools template which highlights two waste audits – one at the start and one at the end of our Zero Waste work.

	for period over for period over which Waste which Waste consumption consumption days in this period (kg/bags 120, 240		Amount of Waste (kg/bags/bins – 120, 240, 1110 litre etc.)	Cost (£)	How did you measure your Waste consumption?			
Previous year								
General waste	Waste Audit 1 14th December 2012	14th December 2012	1 school day	Grams 33,040	No costs calculated	Calculated a total day's waste for each year group and areas such as toilets and the		
Recycling	Waste Audit 1 14th December 2012	14th December 2012	1 school day	Grams 9,052	No costs calculated	staff room under the headings: paper, plastic, cardboard, cans, glass, organic, all other waste,		
Composting	Waste Audit 1 14th December 2012	14th December 2012	1 school day	Grams None composted	No costs calculated	paper recycling and plastic recycling		
Current year								
General waste	Waste Audit 2 8th March 2013	8th March 2013	1 school day	Grams 10,894	No costs calculated	Calculated a total day's waste for each year group and areas such as toilets and the		
Recycling	Waste Audit 2 8th March 2013	8th March 2013	1 school day	Grams 18,245	No costs calculated	staff room under the headings: paper, plastic, cardboard, cans, glass, organic, all other waste,		
Composting	Waste Audit 2 8th March 2013	8th March 2013	1 school day	Grams 12,600	No costs calculated	paper recycling and plastic recycling		

Click here to view the Eco-Schools Data Collection Form template







Calculating a total day's waste Date: 21st March 2014

Aera of school	Paper	Plastic	Cardboard	Cans	Glass	Paper	Food	Total Plastic Bin	Food Bin	Paper Bin	Incorrect items in Food or Paper Bin	Area total (grams)	% recycling waste in wrong bin
P1	130	1525		5		350	2010	17%	110	500	15	2635	19
P2	5	1100				350	1455	24%	450	350		2255	16
P3	42	1400				18	1460	1%	920	480		2860	2
P4	10	600				37	647	6%	820	850		2317	2
P5		1410				100	1510	7%	620	420		2550	4
P6	25	1165				25	1215	2%	1350	5800		8365	1
P7		900					900	0%	1400	920		3220	0
Staff room		750				2	752	0%	220	680		1652	0
Playgrounds		115				500	615	81%	2900			3515	14
Canteen		475				75	550	14%	2450			3000	3
Toilets							0	0%		1750		1750	0
Offices							0	0%		600		600	0
SN room							0	0%		140		140	0
Computer room							0	0%		0		0	0
Total (grammes)	212	9440	0	5	0	1457			11240	12490		34859	
Total (kgs)	0.212	9.44	0	0.005	0	1.457			11.24	12.49		34.859	











Curriculum Links and Skills

The Waste topic allows you to incorporate and promote Thinking Skills & Personal Capabilities and Cross-Curricular Skills into your lessons.

Lesson Suggested Learning Intentions

(taken from W.A.U. strands on Northern Ireland Curriculum website)

Strand 1: Interdependence

'About the effects that people's actions have on the natural environment (S&T) (G); that some waste materials can be recycled and that this can be of benefit to the environment (S&T); to be aware of how modern technology has influenced design and production of everyday objects (S&T).'

Strand 2: Movement and Energy

'How the lack of basic resources impacts on the lives of people in different countries (G); that the journey of a product can affect the environment both locally and globally (G).'

Strand 3: Place

'How the use of materials relates to their properties (S&T); about the impact of different people over time on places (H); how human activities create a variety of waste products (S&T); about the importance of recycling and its benefits (S&T); that some materials decay naturally while others do not (S&T).

Strand 4: Change Over Time

'About the environmental benefits of reducing, reusing and recycling (S&T); about how materials are changed to make new materials (S&T); about the depletion of the world's resources and how this has occurred (G); that there are things we can do to prevent pollution and the production of waste (G); about desirable and undesirable change at home and in the environment (S&T).

Using Mathematics

Example: Explore ideas, make and test predictions and think creatively when, for example, implementing and monitoring actions to improve recycle rates in school.

Being Creative

Example: Try out different ways to solve problems, for example, use a map of school grounds to determine best possible locations for improving recycling measures and reducing waste.

Managing Information

Example: Ask deeper and more probing questions, plan and set goals, design solutions and challenge assumptions. For, example when investigating questions such as: what attitudes do parents have to recycling? Why don't some people recycle? Are landfill sites good or bad?

Thinking, Problem-Solving and Decision-Making

Example: Investigate similarities and differences - such as differences among properties of materials - offering explanations to why, for example, some are harder to recycle. Are landfill sites good or bad?

Using ICT

Example: Use the Internet to carry out research related to waste such as the benefits of reducing, reusing and recycling or the impacts of landfill.

Self-Management

Example: Evaluate their work e.g. redrafting a piece of creative writing on the Waste theme or a report or newspaper article on the benefits of waste efficiency.

Working with Others

Example: Begin to manage collaborative projects involving the sharing of information, resources, roles and co-operate with outside groups e.g. undertaking a litter pick

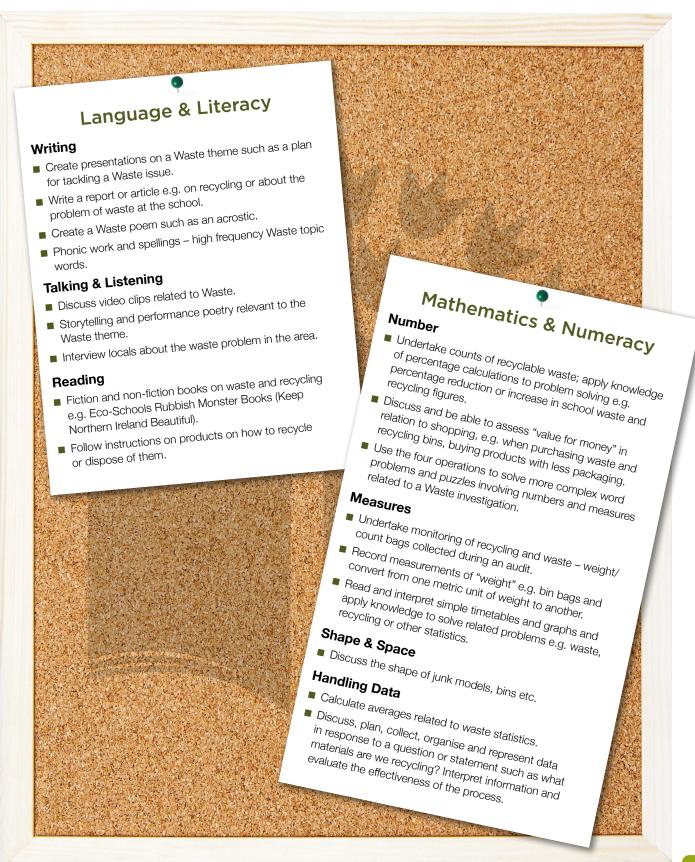
Communication

Example: Contribute comments, ask questions and respond to others' points of view e.g. carry out interviews with staff of appropriate organisations on attitudes to waste efficiency.





Primary Activity Ideas







Primary Activity Ideas

The World Around Us

Geography

- KWL exercise on Waste.
- Pinpoint particular local habitats on maps and the human impact on them from dumping waste.
- Draw a map/plan of the school grounds noting waste and recycling points.

History

- Research a local recycling centre/landfill site and how it was and is used etc.
- Create a log of how the grounds have developed over the project in regards to waste efficiency.
- How the process of recycling and removal of waste has changed over time with improvements in technology.

Science & Technology

- Investigate the school's recycling habits, taking measurements etc.
- Research a priority species of plants or animal and investigate possible threats of inefficient waste management on people, plants and animals.
- Research and investigate problems of landfill.

Religious Education

- Explore the importance of plants, animals and rivers, which are affected by poor waste management and landfill, to human spirituality and wellbeing.
- Stewardship-care for the planet.

Personal Development & **Mutual Understanding**

- Understand health and safety on site.
- Actively taking care of self and others.
- Apply findings to the wider community. Develop care for the local environment through playing an active and meaningful part in the life of the community.

The Arts

Art & Design

- Collect, examine and select resource material to use in the development of ideas such as leaves, twigs and
- Look at and talk about the work of local artists who work with recyclable materials, natural materials or paint
- Make sculptures and other pieces of artwork using recyclable materials.

Music

- Create musical stories, pictures, patterns, conversations etc. based on a Waste theme or issue e.g. sounds at the landfill site/recycling centre or a recycling rap.
- Sing and perform with simple instruments/junk instruments from memory, by ear or from notation to develop vocal and instrumental skills e.g. songs about the 3 Rs.

Drama

- Role play situations such as how waste pollution from human activities has a long-term effect on people.
- Explore a range of cultural and human issues by using drama to begin to explore their own and others' feeling about issues, and by negotiating situations both in and out of role e.g. a proposed landfill site.
- Use the Waste theme to develop a range of drama strategies including freeze frame, tableau, hot seating, thought tracking and conscience alley.

Physical Education

- Prepare for outdoor work and take part in physical tasks.
- Play waste games e.g. have pupils pick up waste materials and run to put them in the correct "bin".

Post-Primary Activity Ideas

Environment & Society

- Map grounds illustrating waste and recycling points.
- Map local rivers and associated habitats which are affected by landfill sites.
- Develop a sense of place through the study of a range of local, national, European and global contexts; and Waste issues of topical significance.

History

- Investigate significance of waste in the past and how technological advances have impacted on waste
- Chart changes to school grounds from past to present.
- Investigate significance of waste in stories and tales.

Religious Education

- Look at other religions' view of nature and waste.
- Stewardship-looking after our planet.

Language & Literacy

English/Irish Medium with Media Education

- Carrying out an awareness raising campaign, identifying and describing waste issues and efficiency-reduce, reuse and recycle.
- Compare and contrast articles about the same waste topic from two very different sources. For example, one could be from an environmental campaigning organisation or lobby group such as Friends of the Earth and this could be contrasted to a Government article.

Modern Languages

Make and maintain links with other International Eco-Schools. The International Eco-Schools Connect website can help with this www.eco-schools-projects.org

Learning for Life & Work

Local & Global Citizenship

- Actively engage and participate in a local project/issue.
- Participate in an action project.
- Look at how other people in different countries deal with waste. Look at their attitudes to waste.

Education for Employability

- Learn about the work of those involved in waste and the systems used to reduce, reuse and recycle.
- Form a recycling committee within your school.

Personal Development

 Manage own personal health and safety in field and lab; share ideas and work as a team.

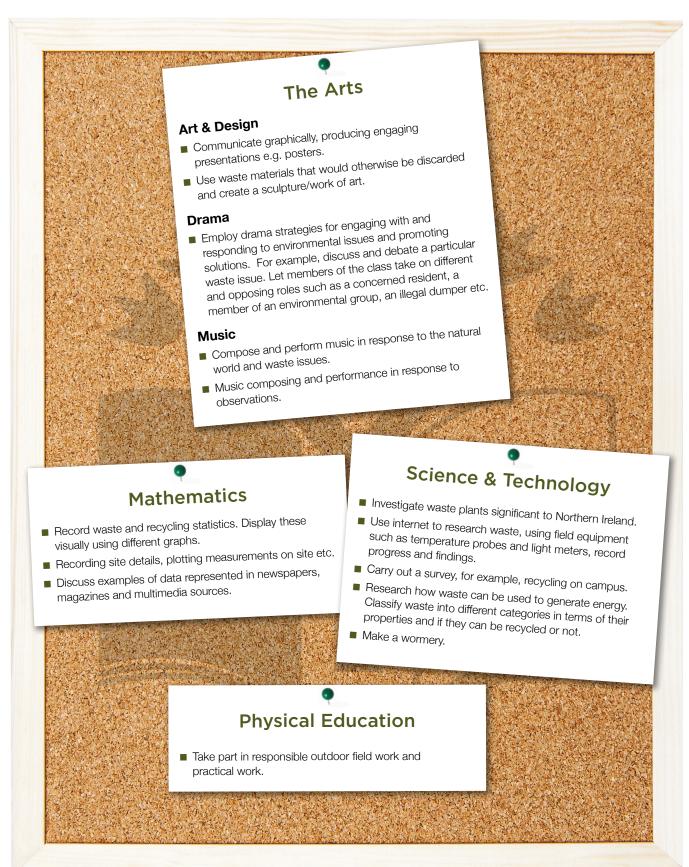
Home Economics

- Choose food with less packaging; create recipes for
- Apply relevance of waste efficiency to choices in running





Post-Primary Activity Ideas







Useful links



Click on the link to visit the website













