



**Primary  
Awards for  
Green  
Education in  
Schools**



**Curriculum Guide for Scottish Schools**



## Important note:

This Guide provides teachers with some starting ideas for projects that could be used to enter the Primary Awards for Green Education in Schools and shows how they can be linked with the Curriculum for Excellence. It is not in any way intended to be prescriptive. There are many other opportunities to take part in the Awards and meet the objectives of the Curriculum for Excellence. The only limits are your and your pupils' imagination and enthusiasm. We look forward to seeing lots of amazing ideas and work being entered into the Awards in future!

Please be advised that the priority when judging project entries is that they contain examples of the **students' own work**.

You can download all of the supporting documents for the Primary Awards for Green Education in Schools from <https://primaryawards4greeneducation.org.uk>

The Young People's Trust for the Environment's website is a great source of environmental information for both teachers and children. You can find it at <https://ypte.org.uk/>

Teachers requiring further assistance should contact the Young People's Trust for the Environment on 01935 315025 or [info@ypte.org.uk](mailto:info@ypte.org.uk).

# CURRICULUM FOR EXCELLENCE: EXPRESSIVE ARTS

PROJECT SUGGESTIONS	EXPERIENCES AND OUTCOMES (with cross-curricular links)
<p><b>Class Debate</b> This could be held on a number of topical or local environmental issues, such as:</p> <ul style="list-style-type: none"> <li>• Renewable vs non-renewable energies</li> <li>• Global warning and climate change</li> <li>• Logging and mining vs conservation in the rainforests</li> <li>• Conventional vs organic farming</li> <li>• A proposed development e.g. road, housing, shopping centre</li> </ul> <p>Students should research the topic (this could include use of the internet) to ensure they are fully informed and can justify their answers, arguments and opinions. Debates could take place as role-plays, with participants playing the part of representatives of companies, environmentalists etc. The debate can be recorded as a video and submitted with background information and supporting examples of the students' work.</p> <p><b>Short Film or News Broadcast</b> This could focus on a topical environmental issue. It should include key information and facts, as well as interviews with teachers/parents/students to find out their views on the issue. Alternatively, it could document the activities and achievements of a school eco committee or gardening club.</p> <p><b>Eco Drama</b> Write a script collaboratively and perform a short drama on an environmental issue. Characters could be human, e.g. hunters/poachers, conservationists, environmentalists, native people or animals. Let us see your initial ideas, your script and ideally, film a performance.</p> <p><b>Poetry Recital</b> Write your own poems taking inspiration from nature, in the style of your choice and read aloud to an audience. The class could compile an illustrated book that showcases their poetry.</p>	<p><b>Participation in performances and presentations: First and Second</b></p> <ul style="list-style-type: none"> <li>• <i>I have experienced the energy and excitement of presenting/ performing for audiences and being part of an audience for other people's presentations/ performances (EXA 1-01a / EXA 2-01a).</i></li> </ul> <p>Technologies: ICT to enhance learning</p> <p>Literacy: Listening and talking / Writing</p> <p>Technologies: ICT to enhance learning</p> <p>Literacy: Listening and talking / Writing</p> <p>English: Writing</p>

<p><b>Recycled Fashion Show</b> Design and make a range of clothing from recycled materials. You could hold a fashion show where students model the garments they have made on the catwalk!</p>	<p>Technologies: Food and textiles</p>
<p><b>Recycled Arts and Crafts</b> Think about what can be made from recycled everyday materials e.g. paper, plastic, aluminium foil – perhaps a collection of artwork, Christmas decorations, paper weights/ ornaments etc.</p> <p><b>Making Things from Nature</b> Create a collage / poster / mural / model / sculpture using natural materials or using nature for pattern ideas, colours, textures and forms.</p> <p><b>Environmental Display</b> Produce an eye-catching display for the classroom wall or school hall. This could be about an important environmental issue such as recycling, giving important information and telling people what they can do to help. Or your display could be a celebration of nature and biodiversity. Take photos of your display and send them to us.</p> <p><b>Our Environment in Art</b> Artists have long taken inspiration from nature. Learn about environmental artists like Andy Goldsworthy. Create your own art pieces with nature as the theme. You may choose to focus on aspects of the local environment or your artwork may reflect global environmental issues. Use a variety of techniques, utilising recycled and natural materials whenever possible. How is your artwork interpreted by the rest of the class?</p> <p><b>Environmental Sculpture</b> Create sculptures on an environmental theme e.g. the rainforest or the Arctic. Use recycled and natural materials wherever possible.</p> <p><b>Design: Solve an Environmental Problem</b> Can you design a product that provides a solution to an environmental problem? For example, too many cups are being thrown away in coffee shops – can you design an effective alternative to the disposable cup?</p>	<p><b>Art and design: First</b></p> <ul style="list-style-type: none"> <li>• I have the opportunity to choose and explore a range of media and technologies to create images and objects, discovering their effects and suitability for specific tasks (EXA 1-02a).</li> <li>• I can create and present work using the visual elements of line, shape, form, colour, tone, pattern and texture (EXA 1-03a).</li> <li>• I can create a range of visual information through observing and recording from my experiences across the curriculum (EXA 1-04a).</li> <li>• I can use exploration and imagination to solve design problems related to real-life situations (EXA 1-06a).</li> </ul> <p><b>Art and design: First and Second</b></p> <ul style="list-style-type: none"> <li>• Inspired by a range of stimuli, I can express and communicate my ideas, thoughts and feelings through activities within art and design (EXA 1-05a and EXA 2-05a).</li> </ul> <p><b>Art and design: Second</b></p> <ul style="list-style-type: none"> <li>• I have the opportunity to choose and explore an extended range of media and technologies to create images and objects, comparing and combining them for specific tasks (EXA 2-02a).</li> <li>• I can create and present work that shows developing skill in using the visual elements and concepts (EXA 2-03a).</li> <li>• Through observing and recording from my experiences across the curriculum, I can create images and objects which show my awareness and recognition of detail (EXA 2-04a).</li> <li>• I can develop and communicate my ideas, demonstrating imagination and presenting at least one possible solution to a design problem (EXA 2-06a).</li> </ul>

### **Class Debate (Real or Imaginary Situation)**

Please see page 1 for details.

### **Eco Drama (Scripted or Improvised)**

Please see page 1 for details.

### **Nature Documentary**

Study the work of a naturalist or animal behaviourist e.g. David Attenborough or Steve Backshall. Film a documentary video that adapts and/or mimics a chosen style. You could choose to report on the way that plants and animals in the school grounds/local area change over the seasons, identifying and profiling key species and explaining their lifecycles. Or you may prefer to report on a topical issue such as the impact that deforestation has on the plants and animals that live in the rainforest.

[Links to Science: Planet Earth and Biological systems](#)

[Link to Technologies: ICT to enhance learning](#)

### **Drama: First**

- *I enjoy creating, choosing and accepting roles, using movement, expression and voice (EXA 1-12a).*
- *I have developed confidence and skills in creating and presenting drama which explores real and imaginary situations, using improvisation and script (EXA 1-14a).*

### **Drama: First and Second**

- *Inspired by a range of stimuli, I can express and communicate my ideas, thought and feelings through drama (EXA 1-13a and EXA 2-13a).*
- *I can respond to the experience of drama by discussing my thoughts and feelings. I can give and accept constructive comment on my own and other's work (EXA 1-15a and 2-15a).*

### **Drama: Second**

- *I can create, adapt & sustain different roles, experimenting with movement, expression and voice and using theatre arts technology (EXA 2-12a).*
- *I have created and presented scripted or improvised drama, beginning to take account of audience and atmosphere (EXA 2-14a).*

### **Write and Record an Environmental Song (and Dance)**

Either compose a new song or write new words to a well-known tune. Perform it as a group and produce a video of the performance. You could also perform a dance to some of the song and include it on the video. The song should have a strong environmental message, such as saving the rainforests, reducing global warming or using renewable energies.

### **Junk Orchestra**

Create musical instruments from recycled materials. You could:

- Make a percussion instrument like a drum, maracas or a tambourine.
- Make tones from different levels of water in bottles or glasses.

Create and record a piece of music that can be played either individually or as a group. It could express the importance of taking action to help the environment through recycling, not dropping litter, leaving the car at home, turning off appliances rather than leaving them on standby etc.

### **Music: First**

- *I can use my voice, musical instruments and music technology to discover and enjoy playing with sound, rhythm, pitch and dynamics (EXA 1-17a).*

### **Music: First and Second**

- *Inspired by a range of stimuli, and working on my own and/or with others, I can express and communicate my ideas, thoughts and feelings through musical activities (EXA 1-18a and 2-18a).*

### **Music: Second**

- *I can use my voice, musical instruments and music technology to experiment with sounds, pitch, melody, rhythm, timbre and dynamics (EXA 2-17a).*

[Technologies: ICT to enhance learning](#)

[Expressive Arts: Participation in performances.](#)

# CURRICULUM FOR EXCELLENCE: HEALTH AND WELLBEING

## PROJECT SUGGESTIONS

## EXPERIENCES AND OUTCOMES

(with cross-curricular links)

Just taking part in the **Primary Awards for Green Education in Schools** means that students will be fulfilling the **Social Wellbeing** aspect of the curriculum and if you enter the **Green Action Takers** category, you will be addressing the **Physical Wellbeing** outcomes and experiences.

### Belonging to a School Eco Committee or Gardening Club

We would love to hear about the activities of your school's eco committee or green club. The project could include written work, diary entries, posters, photographs or perhaps a video. Information to include:

- How many children belong to the group?
- How often do they meet?
- How is the group organised?
- What activities do members take part in?
- What do the group feel they have achieved so far?
- What aims do the group have for the future?
- How do members feel they benefit from their involvement?

### Social wellbeing: First and Second

- Representing my class, school and/or wider community encourages my self-worth and confidence and allows me to contribute to and participate in society (HWB 1-12a and 2-12a).
- Through contributing my views, time and talents, I play a part in bringing about positive change in my school and wider community (HWB 1-13a and 2-13a).
- I value the opportunities I am given to make friends and be part of a group in a range of situations (HWB 1-14a and 2-14a).

### Physical wellbeing: First and Second

- I am developing my understanding of the human body and can use this knowledge to maintain and improve my wellbeing and health (HWB 1-15a and 2-15a).

### Small Business Enterprise

If your school has an allotment or vegetable/flower garden and there is sufficient produce, could you start a small business? Students could sell vegetables/flowers to parents and/or the local community, perhaps using the school's website to run the scheme. They could be involved in working out costs, setting prices and calculating profits, as well as taking money and giving change to customers.

This project has potential to be highly cross-curricular with opportunities for students to carry out different activities and roles, such as:

- Gardening
- Website and logo design
- Marketing – posters and leaflets etc.
- Devising healthy recipes that can be made with the produce sold
- Producing a recipe book or publishing recipes on the website.

### Planning for choices and changes: First

- Through taking part in a variety of events and activities, I am learning to recognise my own skills and abilities as well as those of others (HWB 1-19a).

### Planning for choices and changes: Second

- Opportunities to carry out different activities and roles in a variety of settings have enabled me to identify my achievements, skills and areas for development. This will help me to prepare for the next stage in my life and learning (HWB 2-19a).

Numeracy and Mathematics: Money

Participation in any **Green Action Takers** project is likely to involve learning and working outdoors, coupled with physical activities.

### Creating Areas for Outdoor Learning

Think about how your school grounds could be improved. Students could carry out a survey/questionnaire to find out what teachers and students feel is needed to improve the school's outdoor space. Ideas to focus on:

- Creation/restoration of a school wildlife area
- Develop a neglected pond area or create a new school pond – the perfect place to study the life cycle of a frog
- Plant some trees to encourage more wildlife, create shaded areas and perhaps grow fruit for the school
- Create a small urban garden in a school with limited grounds – there are lots of clever things you can do to make the most of the space you have and maximise opportunities for outdoor learning
- Make and site bird nest boxes in the school grounds
- Create an outdoor classroom
- Start making your own compost.

### Outdoor Learning Visit

Your project could be based around a visit to a local wild area or nature reserve. The students might investigate the plants and animals that live there, perhaps comparing changes through the seasons or studying life cycles and food chains.

### Start or Increase Vegetable Growing at School

Let each child plant, care for and ultimately taste a range of fruit and vegetables. Perhaps they could cook with them or even set up a small business to sell them (see page 4 for details).

### Low Food Miles Healthy Cookbook

Create and cook recipes made using ingredients that are as far as possible sourced locally and in season. If possible, visit a local farm to find out how food is grown there. Photograph the cooking process and the completed recipes or compile a video. Hold a tasting session for the local head teacher/ staff/ students and include their comments in the project. If possible, source some ingredients from the school's garden or greenhouse.

### Physical activity and sport: First

- *Within and beyond my place of learning I am enjoying daily opportunities to participate in physical activities and sport, making use of available indoor and outdoor space (HWB 1-25a).*

### Physical activity and health: First

- *I understand that my body needs energy to function and that this comes from the food I eat. I am exploring how physical activity contributes to my health and wellbeing (HWB 1-28a)*

### Physical activity and sport: Second

- *I am experiencing enjoyment and achievement on a daily basis by taking part in different kinds of energetic physical activities of my choosing, including sport and opportunities for outdoor learning, available at my place of learning and in the wider community (HWB2-25a).*

### Physical activity and health: Second

- *I can explain the links between the energy I use while being physically active, the food I eat, and my health and wellbeing (HWB2-28a).*

Science: Planet Earth and Biological Processes

### Food and health: First

- *By investigating the range of foods available I can discuss how they contribute to a healthy diet (HWB1-30a).*
- *I experience a sense of enjoyment and achievement when preparing simple healthy foods and drinks (HWB 1-30b).*

### Food and health: First and Second

- *When preparing and cooking a variety of foods, I am becoming aware of the journeys which foods make from source to consumer, their seasonality, their local availability and their sustainability (HWB 1-35a and 2-35a).*

### Food and health: Second

- *By applying my knowledge and understanding of current healthy eating advice I can contribute to a healthy eating plan (HWB 2-30a).*

### **Food Miles Survey**

Ask the children to look at the contents of their fridge or food cupboards. Note down the items and where they come from in the world. Work out how many miles the food has travelled. Suggest local alternatives.

### **Taste Test: Local vs Imported**

Carry out a comparison of locally grown fruit and vegetables with those imported from overseas. Ideas for comparison:

- Appearance
- Shelf Life
- Season length
- Environmental impact.

If possible, you could carry out a consumer preference survey with parents or in local shops and supermarkets.

### **Building an Oven**

With help from someone who has the necessary experience, build a cob oven in your school grounds. Students can take part in preparing and cooking meals, such as pizza. It would be fantastic if they can grow the tomatoes, onions, herbs etc. themselves in the school garden. They can then think about what makes a healthy meal.

Mathematics

Technologies: Food and textiles contexts, Craft, design, engineering and graphics contexts

# CURRICULUM FOR EXCELLENCE: LITERACY

PROJECT SUGGESTIONS	EXPERIENCES AND OUTCOMES <i>(with cross-curricular links)</i>
<p><b>Class Debate</b> This could be held on a number of topical or local environmental issues, such as:</p> <ul style="list-style-type: none"> <li>• Renewable vs non-renewable energies</li> <li>• Global warning and climate change</li> <li>• Logging and mining vs. conservation in the rainforests</li> <li>• Conventional vs. organic farming</li> <li>• Whaling</li> <li>• Badger culling</li> <li>• Whaling</li> <li>• A proposed local development e.g. road, housing, shopping centre.</li> </ul> <p>Students will need to carry out research on their topic, using a range of resources. They should clearly articulate and justify answers, arguments and opinions. Debates could take place as role-plays, with participants playing the part of members of the public, representatives of companies, environmentalists etc. The debate could be recorded as a video and submitted with background information and supporting examples of the students' work.</p> <p><b>Short Film or News Broadcast</b> This could focus on a topical environmental issue, such as deforestation, protecting endangered species, pollution or recycling. Students will need to carry out detailed research and select the information and key facts that they feel are most relevant. They may also carry out interviews with teachers/ parents/ students to find out people's views on the issue, making sure that they include a balanced range of different opinions. Alternatively, the film/broadcast it could document the activities and achievements of a school eco committee or gardening club.</p>	<p><b>Listening and talking: First</b></p> <ul style="list-style-type: none"> <li>• <i>When I engage with others, I know when and how to listen, when to talk, how much to say, when to ask questions and how to respond with respect (LIT 1-02a).</i></li> <li>• <i>I can select ideas and relevant information, organise these in a logical sequence and use words which will be interesting and/or useful for others (LIT 1-06a).</i></li> <li>• <i>I can show my understanding of what I listen to or watch by responding to and asking different kinds of questions (LIT 1-07a).</i></li> <li>• <i>To help me develop an informed view, I am learning to recognise the difference between fact and opinion (LIT 1-08a).</i></li> <li>• <i>When listening and talking with others for different purposes, I can exchange information, experiences, explanations, ideas and opinions, and clarify points by asking questions or by asking others to say more (LIT 1-09a).</i></li> </ul> <p><b>Listening and talking: Second</b></p> <ul style="list-style-type: none"> <li>• <i>When I engage with others, I can respond in ways appropriate to my role, show that I value others' contributions and use these to build on thinking (LIT 2-02a).</i></li> <li>• <i>I can select ideas and relevant information, organise them in an appropriate way for my purpose and use suitable vocabulary for my audience (LIT 2-06a).</i></li> <li>• <i>I can show my understanding of what I listen to or watch by responding to literal, inferential, evaluative and other types of questions, and by asking different kinds of questions of my own (LIT 2-07a).</i></li> <li>• <i>To help me develop an informed view, I can distinguish fact from opinion, and I am learning to recognise when my sources try to influence me and how useful these are (LIT 2-08a).</i></li> <li>• <i>When listening and talking with others for different purposes, I can: share information, experiences and opinions; explain processes and ideas; identify issues raised and summarise main points or findings; clarify points by asking questions or by asking others to say more (LIT 2-09a).</i></li> </ul>

### Environmental Research Project

Carry out research on a chosen environmental topic or issue. You may choose to find out about the life of a tribe in the Amazon rainforest or investigate the advantages and disadvantages of wind farms. This should involve research from a range of sources e.g. internet, newspapers, magazines, reference books. Where there are different viewpoints, it is important that these contrasting viewpoints are addressed. Students will need to select relevant information, make structured notes and then write up their finding in their own words. They will need to give thought to how their project is organised, possibly including a contents page and organising information into relevant sections, so that the reader is able to easily find the information they need. Possible subjects include:

- Global warming
- Flooding
- Fishing and hunting
- Deforestation
- Pollution.

### Reading: First

- *Using what I know about the features of different types of texts, I can find, select, sort and use information for a specific purpose (LIT 1-14a).*
- *I am learning to make notes under given headings and use them to understand information, explore ideas and problems and create new texts (LIT 1-15a)*
- *To help me develop an informed view, I can recognise the difference between fact and opinion (LIT1-18a).*

### Reading: Second

- *Using what I know about the features of different types of texts, I can find, select and sort information from a variety of sources and use this for different purposes (LIT2-14a).*
- *I can make notes, organise them under suitable headings and use them to understand information, develop my thinking, explore problems and create new texts, using my own words as appropriate (LIT 2-15a).*
- *To help me develop an informed view, I can identify and explain the difference between fact and opinion, recognise when I am being influenced, and have assessed how useful and believable my sources are (LIT 2-18a).*

### Keeping a Journal

Write diary entries to document progress and achievement in environmental projects, such as the creation of a school allotment/garden or the work carried out by a school eco committee. Ideally, the journal should include photographs and/or pictures.

### Poetry Book

Write your own poems taking inspiration from nature, in the style of your choice and read aloud to an audience. The class could compile an illustrated book that showcases their poetry.

### Fictional Narrative

Write a story about the life of a character who is involved with an environmental issue, such as:

- A conservationist who is trying to save an endangered species
- A tribe that is trying to prevent their rainforest being cut down
- An inventor who has discovered a new clean source of energy
- Someone caught in a flood as a result of climate change.

### Writing: First

- *I can present my writing in a way that will make it legible and attractive for my reader, combining words, images and other features (LIT 10-24a).*
- *By considering the type of text I am creating, I can select ideas and relevant information, organise these in a logical sequence and use words which will be interesting and/or useful for others (LIT 1-26a).*
- *I can convey information, describe events or processes, share my opinions or persuade my reader in different ways (LIT 1-28a and LIT 1-29a).*
- *I can use what I learn to create my own stories, poems and plays with interesting structures, characters and/or settings (ENG 1-31a).*

### Writing: First and Second

- *I enjoy creating texts of my choice and I regularly select subject, purpose, format and resources to suit the needs of my audience (LIT 1-20a and LIT2-2-20a).*

### Writing: Second

- *I consider the impact that layout and presentation will have and can combine lettering, graphics and other features to engage the reader (LIT 2-24a).*

### Letter / Newspaper Article

Write a letter to an identified (fictional or real) audience e.g. your local newspaper or MP about a **local environmental issue** such as:

- The cutting down of a woodland
- The litter problem in a local park
- The building of a wind turbine
- A proposal for better recycling facilities.

Give both sides of the argument and, if possible, visit your local area to gather evidence to use in your writing.

Or students may wish to write letters to politicians about a **national/global environmental issue** such as pollution in our oceans.

Alternatively, write a newspaper or magazine article based on the above.

### PowerPoint Presentation

Many project entries may be submitted as a PowerPoint presentation. Students should write the text for the slides themselves, choose appropriate images and, if possible, have a go at laying out the presentation themselves.

### Designing Posters/ Leaflets

Design and produce posters and/or leaflets to communicate information and encourage action. This could be for circulation to students and parents for a school campaign e.g. anti-litter or recycling. Or it could be for wider circulation within the local area e.g. campaigning against the building of a new road that will endanger wildlife.

- *By considering the type of text I am creating, I can select ideas and relevant information, organise these in an appropriate way for my purpose and use suitable vocabulary for my audience (LIT 2-26a).*
- *I am learning to use language and style in a way which engages and/or influences my reader (ENG 2-27a).*
- *I can convey information, describe events, explain processes or combine ideas in different ways (LIT 2-28a).*
- *I can persuade, argue, explore issues or express an opinion using relevant supporting detail and/or evidence (LIT 2-29a).*
- *I can use what I learn to create stories, poems and plays with an interesting and appropriate structure, interesting characters and /or settings which come to life (ENG 2-31a).*

Technologies: ICT to enhance learning

Expressive Arts: Art and design

# CURRICULUM FOR EXCELLENCE: NUMERACY AND MATHEMATICS

PROJECT SUGGESTIONS	EXPERIENCES AND OUTCOMES (with cross-curricular links)
<p><b>Small Business Enterprise</b></p> <p>If your school has an allotment or vegetable/ flower garden and there is sufficient produce, could you start a small business? Students could sell vegetables/flowers to parents and/or the local community, perhaps using the school's website to run the scheme. They could be involved in working out costs, setting prices and calculating profits, as well as taking money and giving change to customers.</p> <p>This project has potential to be highly cross-curricular with opportunities for the following:</p> <ul style="list-style-type: none"> <li>• Gardening</li> <li>• Website and logo design</li> <li>• Marketing – posters and leaflets etc.</li> </ul>	<p><b>Money: First</b></p> <ul style="list-style-type: none"> <li>• <i>I can use money to pay for items and can work out how much change I should receive (MNU 1-09a).</i></li> <li>• <i>I have investigated how different combinations of coins and notes can be used to pay for goods or be given in change.</i></li> </ul> <p><b>Money: Second</b></p> <ul style="list-style-type: none"> <li>• <i>I can use the terms profit and loss in buying and selling activities and can make simple calculations for this (MNU 2-09c).</i></li> </ul> <p>Health and Wellbeing: Physical wellbeing Technologies: ICT to enhance learning Expressive Arts: Art and design</p>
<p><b>Plan a School Wildlife Area</b></p> <p>Design a wildlife area within the school grounds. Plot the area on a map or blue-print of the school grounds, go outside and map the area itself and create designs. Using grids or graph paper, draw plans <b>to scale</b> for your wildlife area. Your wildlife area could include a range of different shapes:</p> <ul style="list-style-type: none"> <li>• Curved paths</li> <li>• Round ponds</li> <li>• A square bird table</li> <li>• Rectangular planters</li> <li>• A triangular vegetable plot</li> </ul> <p>Can you make a scale models of your wildlife area? If you are able, make your designs a reality within the school grounds.</p> <p><b>Make a Bird Nest Box</b></p> <p>Make a nest box. Establish a good site for the bird box in the school grounds and perhaps it could now be used to carry out some observations (see suggested project below).</p>	<p><b>Measurement / Shape, position and movement: First</b></p> <ul style="list-style-type: none"> <li>• <i>I can estimate the area of a shape by counting squares or other methods (MNU 1-11b).</i></li> </ul> <p><b>Shape, position and movement: Second</b></p> <ul style="list-style-type: none"> <li>• <i>Having explored a range of 3D objects and 2D shapes, I can use mathematical language to describe their properties, and through investigation can discuss where and why particular shapes are used in the environment (MTH 2-16a).</i></li> <li>• <i>I can draw 2D shapes and make representations of 3D objects using an appropriate range of methods and efficient use of resources (MTH 2-16c).</i></li> <li>• <i>I have investigated angles in the environment, and can discuss, describe and classify angles using appropriate mathematical vocabulary (MTH 2-17a).</i></li> <li>• <i>Having investigated where, why and how scale is used and expressed, I can apply my understanding to interpret simple models, maps and plans (MTH 2-17d).</i></li> </ul>

### Bird Feeding Investigation

Study the frequency of visits to a bird table or feeding station. Analysis might include:

- Are birds influenced by colour/type of food or time of day?
- Which species visit the feeding station and how often?
- Do the species or frequencies of visits change over time/season?
- Do different birds prefer different foods?

When data has been collected, think of different ways of compiling and displaying the results e.g. tables, pie charts, graphs.

Alternatively, you may wish to carry out a **statistical analysis of litter on a beach** - types of litter and changes over the seasons (or even years if this is an annual activity). What can be done to address this problem?

### Create a Questionnaire/Survey

Design, implement and analyse an opinion poll on an environmental issue – at home, at school or in the community e.g. recycling, food miles, renewable vs non-renewable energy.

- How can this be achieved scientifically?
- What do the results show?
- How can this information best be displayed?
- What conclusions can be drawn from the results?
- How can the results be used?

### Audit of Waste Disposal

Carry out an audit of the class/school's habits with regard to waste disposal:

- In week 1, estimate how many items are thrown away in the course of each lunch break. Weigh how much is thrown away and how much is recycled.
- In week 2, everyone should make an effort to recycle more, throw less away and consider how food and snacks are packaged to try and reduce waste. Gather the same data as for week 1.
- Was there an improvement in week 2? If so, how could that improvement be sustained?

### Data and Analysis: First

- *I have explored a variety of ways in which data is presented and can ask and answer questions about the information it contains (MNU 1-20a).*
- *I have used a range of ways to collect information and can sort it in a logical, organised and imaginative way using my own and others' criteria (MNU 1-20b).*
- *Using technology and other methods, I can display data simply, clearly and accurately by creating tables, charts and diagrams, using simple labelling and scale (MTH 1-21a).*

### Data and Analysis: Second

- *Having discussed the variety of ways and range of media used to present data, I can interpret and draw conclusions from the information displayed, recognising that the presentation may be misleading (MNU 2-2-a).*
- *I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way (MNU2-2-b).*
- *I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology (MTH 2-21a).*

Technologies: ICT to enhance learning

For older students, this audit could be carried out more thoroughly. Discuss ways of measuring different forms of waste e.g. paper, plastic, organic matter either at home or at school. Come up with a strategy and measure the weight and volume of the waste produced by the school/ household in a day/week/month. Calculate from this the amount that would be produced in one year. Represent results by means of tables and graphs.

If carried out as a whole school initiative, this could also include activities such as poster/leaflet design to raise awareness or a presentation in assembly.

Alternatively, carry out an audit of **energy usage** or **water consumption** at home or at school. Results should be presented in tables/graphs/charts and the project could be written up as an investigation with introduction, method, results, conclusion etc. What solutions can students come up with to reduce energy or water usage?

[Sciences: Energy sources and sustainability](#)

# CURRICULUM FOR EXCELLENCE: SCIENCES

PROJECT SUGGESTIONS	EXPERIENCES AND OUTCOMES (with cross-curricular links)
<p><b>The Zoo at My School</b> Take a detailed look at the <b>micro-habitats</b> to be found in the school grounds. For example, identify and document the variety of mini-beasts to be found under a stone or log pile and think about why they are suited to living there. Students could sketch and label each mini-beast's key features and may also start to think about how they can be grouped into different types. You could take a look at the school (or local) <b>pond</b> and find out which species live there.</p> <p><b>Design a Mini-Beast Hotel</b> Using materials such as wooden pallets, dead wood, old bamboo canes, blocks of wood, straw and hay, dry leaves and loose bark, create your very own mini-beast mansion. The more you can use recycled or reclaimed materials the better. Carry out a full investigation of the species found using a mini-beast identification key. Look at simple classification - is it an insect, an arachnid or something else? Do different food types attract different mini-beasts? Or you may wish to create a <b>hedgehog house</b>.</p> <p><b>Create a Guidebook for Visitors</b> Spend time outside observing, sketching, photographing and describing the plants and animals you see in your local area. Use a key to identify and document the variety of species. Divide the animal species into their groups e.g. mammals, reptiles, amphibians, birds and plants into types e.g. trees, flowering plants, mosses, ferns. Create a classification key to help people identify the different species and illustrate it with photos or drawings. Create food chains to show how they are interrelated.</p> <p><b>Survival of the Fittest</b> Choose an endangered native or foreign species to study. Or you could choose to study a plant/animal that has already become extinct. How do physical and behavioural characteristics influence survival?</p>	<p><b>Planet Earth – Biodiversity and interdependence: First</b></p> <ul style="list-style-type: none"> <li>• <i>I can sort living things into groups and explain my decisions (SCN 1-01a).</i></li> <li>• <i>I can explore examples of food chains and show an appreciation of how animals and plants depend on each other for food (SCN 1-02a).</i></li> <li>• <i>I can help to design experiments to find out what plants need in order to grow and develop. I can observe and record my findings and from what I have learned I can grow healthy plants in school (SCN 1-03a).</i></li> </ul> <p><b>Planet Earth – Biodiversity and interdependence: Second</b></p> <ul style="list-style-type: none"> <li>• <i>I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival; or extinction (SCN 2-01a).</i></li> <li>• <i>I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design and conservation of a wildlife area (SCN 2-02a).</i></li> <li>• <i>Through carrying out practical activities and investigations, I can show how plants have benefitted society (SCN 2-02b).</i></li> </ul> <p>Technologies: Craft, design, engineering and graphics contexts</p> <p>Expressive Arts: Art and design</p> <p>Technologies: ICT to enhance learning</p> <p>Literacy: Writing</p>

### You Are What You Eat

Compare the bodies of different animal species, including mammals, birds, reptiles and fish. How do predators differ from prey in terms of their skeletons, muscles etc.? Compare the size of the predators and prey and how they hunt and evade being caught. Learn how many herbivores have evolved special ways to digest their food e.g. cows and rabbits. Make your findings into a folder, presentation or website using a selection of written work, artwork and photography. You may wish to include models too

### Growing Experiments

Plant seeds in a variety of different areas in the school grounds. Pick areas where it is lighter/more shaded/drier/wetter. Add compost and fertiliser to some and observe the differences in growth. Learn about how different conditions suit different plants better than others. Document findings with written work, artwork, a presentation, photography, a video or website.

### Create a 'Haynes Manual' of Plants

Show how plants function and how water and nutrients are transported within them. Create a flower rainbow to illustrate how water travels up the stem of a plant using white carnations and a selection of coloured waters. Look at flowering plants and the similarities and differences in the structure of their flowers. Investigate the ways in which plants disperse their seeds; for example, explain a sycamore's 'helicopter' seeds, an acorn, a 'dandelion clock' and the 'burrs' on a burdock.

### What Have Plants Ever Done for Us?

Examine the value of plants to humans in different parts of the world. This should include looking at plants as food and the medicinal properties to be found in plants that have saved millions of human lives.

### Plant Energy and Fossil Fuels

Follow the process of a forest from life to decay, to nutrients, to compression, to fossil fuel, to gas and energy.

- What types of energy are there?
- How do we use energy?
- How can we create energy in harmony with the environment whilst recognising the realities of the modern world and human needs?

Health and Wellbeing: Physical wellbeing

### Planet Earth – Energy sources and sustainability: First

- *I am aware of different types of energy around me and can show their importance to everyday life and my survival (SCN 1-04a).*

### Planet Earth – Energy sources and sustainability: Second

- *By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy (SCU 2-04a).*

<p><b>Renewable vs Non- Renewable Energies</b> Research the different kinds of energy and compare the advantages and disadvantages of each.</p> <p><b>Energy Comparison</b> Research statistics from a fossil fuel power station and a wind farm. Compare levels of energy produced and their environmental impacts. Plot results and discuss findings.</p>	<ul style="list-style-type: none"> <li>• <i>Through exploring non-renewable energy sources, I can describe how they are used in Scotland today and express an informed view on the implications for their future use (SCN 2-04b).</i></li> </ul> <p>Mathematics</p>
<p><b>Microorganisms and Waste</b> Learn about the role of micro-organisms in the breakdown of waste e.g. through work on composting:</p> <ul style="list-style-type: none"> <li>• Set up a school compost bin/heap to recycle schools' organic waste</li> <li>• Investigate food chains by identifying the decomposer invertebrates.</li> </ul>	<p><b>Biological systems – Body systems and cells: Second</b></p> <ul style="list-style-type: none"> <li>• <i>I have contributed to investigations into the role of microorganisms in producing and breaking down some materials (SCN 2-13a).</i></li> </ul>
<p><b>Grow Butterflies from Caterpillars to Adults</b> Get a butterfly growing kit and keep caterpillars in the classroom. Take care of them and observe them as they change into a pupa and then an adult butterfly. Learn about the life cycle of a butterfly and find out why butterflies are important in an ecosystem. Write a report on what happens during the stages of their lifecycle, with annotated drawings etc.</p> <p><b>Visit a Local Farm</b> Visit a local farm so that the children can observe young animals – what they need for survival and how they grow. Report on observations, which could include writing, artwork, photos and perhaps video.</p> <p><b>Our School Chickens</b> If possible, observe and report on the development of chicks from egg to adult. Compare this with a mammal species e.g. rabbits or guinea pigs. How do different animals reproduce and grow?</p> <p><b>Life Cycles Comparison</b> Observe and compare the life-cycle changes of animal and plant species found in the local environment with other plants and animals around the world e.g. in the Amazon rainforest, the Sahara Desert, the Atlantic Ocean, the Arctic or the Antarctic.</p>	<p><b>Biological systems – Inheritance: First</b></p> <ul style="list-style-type: none"> <li>• <i>By comparing generations of families of humans, plants and animals, I can begin to see how characteristics are inherited (SCN 1-14a).</i></li> </ul> <p><b>Biological systems – Inheritance</b></p> <ul style="list-style-type: none"> <li>• <i>By investigating the lifecycles of plants and animals, I can recognise the different stages of their development (SCN 2-14a).</i></li> <li>• <i>By exploring the characteristics offspring inherit when living things reproduce, I can distinguish between inherited and non-inherited characteristics (SCN 2-14b)</i></li> </ul>

# CURRICULUM FOR EXCELLENCE: SOCIAL STUDIES

## PROJECT SUGGESTIONS

## EXPERIENCES AND OUTCOMES

(with cross-curricular links)

### Britain in World War 2

How green and pleasant was Britain in the 1940s? Interview great grandparents, neighbours and other senior citizens about life when they were children, focusing on environmental issues:

- What was recycled then and why?
- How much was thrown away compared to today?
- How different was packaging?
- What crops were commonly grown?
- What food was available compared to today?

### People, past events and society: First

- *I can compare aspects of people's daily lives in the past with my own by using historical evidence or the experience of recreating an historical setting (SOC 1-04a).*

### People, past events and society: Second

- *I can compare and contrast a society in the past with my own and contribute to a discussion of the similarities and differences (SOC 2-04a).*

### School Green/Eco Club

As a group, can they think about ways they can look after their school/ community and encourage others to do the same. Areas to consider:

- Reducing waste
- Walking/cycling to school instead of using the car
- Looking after local wildlife
- Saving energy

They may choose to give a presentation in assembly, produce posters for the school and/or local community or something else that will educate and raise awareness of the importance of looking after our environment.

### Local Development

Is there a proposed land use development in the area that will have an effect on the environment? This could be a new housing development, a new road/motorway, a new shopping centre etc. Consider the benefits and risks the development will have for the area – this may involve carrying out interviews and surveys with those who will be affected.

### People, place and environment: First

- *I can consider ways of looking after my school or community and can encourage others to care for their environment (SOC 1-08a).*
- *By exploring climate zones around the world, I can compare and describe how climate affects living things (SOC 1-12b).*
- *By exploring a natural environment different from my own, I can discover how the physical features influence the variety of living things (SOC 1-13b).*

### People, place and environment: Second

- *I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally-responsible way (SOC 2-08a).*
- *I can consider the advantages and disadvantages of a proposed land use development and discuss the impact this may have on the community (SOC 2-08b).*
- *Having explored the way journeys can be made, I can consider the advantages and disadvantages of different forms of transport, discussing their impact on the environment (SOC 2-09a).*
- *By comparing my local area with a contrasting area outside Britain, I can investigate the main features of weather and climate, discussing the impact on living things (SOC 2-12a)*

### Comparing Transport Options

Carry out a study of local cycle routes/bus routes/train facilities etc.:

- How many people have reasonable access to public transport?
- How frequent are the buses/trains/tubes/trams?
- How much do different journeys cost?
- What impact do the different forms of transport have on the environment and energy use?

Using their research, what do students think are the advantages and disadvantages of different forms of transport? What should be done to make travel more sustainable? What do they think the busses and trains of the future may be like?

### Habitat Comparison

Compare the animal and plant species found in the local environment with those found in an unfamiliar habitat e.g. the Amazon rainforest, the Sahara Desert, the Atlantic Ocean or the Antarctic. How is the weather and climate different in these contrasting habitats and how much impact does this have on the plant and animal species that can live there? What other physical features can influence the variety of living things in a habitat?

### Small Business Enterprise

Please see page 4 for details of this project suggestion.

### Form a Company to Make and Sell Environmentally Friendly Products

Examples of ventures include:

- Making and selling bird boxes
- Making and selling recycled Christmas cards
- Making and selling recycled paper
- Making and selling recycled textile-based products such as pin cushions, scarves and blankets.

### People in society, economy and business: First

- *I have experienced the different jobs involved in running a business enterprise and understand the role each one plays in its success (SOC 1-22a).*

### People in society, economy and business: Second

- *By experiencing the setting up and running of a business, I can collaborate in making choices relating to the different roles and responsibilities and have evaluated its success (SOC 2-22a).*

Numeracy and Mathematics: Money

# CURRICULUM FOR EXCELLENCE: TECHNOLOGIES

## PROJECT SUGGESTIONS

## EXPERIENCES AND OUTCOMES

(with cross-curricular links)

### Designing Sustainable Lighting

Design and make an environmentally friendly lighting system – use recycled components and low-voltage bulbs. Can it also be run on an environmentally friendly energy source?

### Investigate Sustainable Energy Sources

Some suggestions:

- Design and make a potato-powered clock, solar-powered mini-fan, solar-powered model car etc.
- Is it possible to set up a small wind turbine or windmill on the school grounds?
- Can you design a water feature that runs on solar power or a pond that constantly recycles water using some form of energy?

### Waste Re-Use Project

Collect appropriate waste from school and/or home and find as many items as possible that can be reused, either for the same purpose or for new ones. Report on the materials they are made of and suggest alternatives to these materials that are more environmentally friendly. Display ideas and encourage people to reuse more.

### Creating Homes for Birds

Create a range of nest boxes, bird tables and bird feeders to attract more birds to the school grounds. Expand the scope to the local community by selling nest boxes, bird feeders etc. to parents. Recycled materials can be used to make many of the objects e.g. bird feeders from plastic bottles or drink cartons, nest boxes from old planks with roof coverings from old tyres. Document your work using photography and written narrative.

### Technological developments in society: First

- *By exploring and using technologies in the wider world, I can consider the ways in which they help (TCH 1-01a).*
- *I can work with others to generate, discuss and develop imaginative ideas to create a product for the future (TCH 1-01b).*
- *Throughout all my learning, I take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment (TCH 1-02a).*

### Technological developments in society: Second

- *When exploring technologies in the world around me, I can use what I learn to help to design or improve my ideas or products (TCH 2-01a).*
- *Having analysed how lifestyle can impact on the environment and Earth's resources, I can make suggestions about how to live in a more sustainable way (TCH 2-02a).*
- *I can investigate the use and development of renewable and sustainable energy to gain an awareness of their growing importance in Scotland or beyond (TCH 2-02b).*

<p><b>Build a Plastic Bottle Greenhouse</b> Use old plastic bottles to create a greenhouse. Document the process using photography, written narrative and/or video footage. What can be grown inside the new greenhouse?</p> <p><b>Form a Company to Make and Sell Environmentally Friendly Products</b> Please see page 17 for this project suggestion.</p> <p><b>Solving a Problem</b> Can you design a product that provides a solution to an environmental problem? Possible ideas:</p> <ul style="list-style-type: none"> <li>• Too many cups are being thrown away in coffee shops – can you design an effective alternative to the disposable cup?</li> <li>• Cars are causing pollution – can you design an environmentally friendly car?</li> </ul>	
<p><b>Create an Environmentally Themed Animation</b> Research the issues, create the storyboards, write the script, build the scenery and characters, shoot the animation using stop-motion photography, record the soundtrack and create the final video files for viewing. Present to the rest of the school and perhaps post to the school's website for public viewing.</p> <p><b>Research</b> Most projects that require some research will benefit from students accessing, retrieving and using information from electronic sources.</p>	<p><b>ICT to enhance learning: First and Second</b></p> <ul style="list-style-type: none"> <li>• <i>As I extend and enhance my knowledge of features of various types of software, including those which help find, organise, manage and access information, I can apply what I learn in different situations (TCH 1-03a and TCH 2-03a).</i></li> <li>• <i>I can access, retrieve and use information from electronic sources to support, enrich or extend learning in different contexts (TCH 1-03b).</i></li> <li>• <i>I explore and experiment with the features and functions of computer technology and I can use what I learn to support and enhance my learning in different contexts (TCH 1-04a and TCH 2-04a).</i></li> <li>• <i>I can create, capture and manipulate sounds, text and images to communicate experiences, ideas and information in creative and engaging ways (TCH 1-04b and TCH 2-04b).</i></li> </ul>
<p><b>Recycled Fashion Show</b> Design and make a range of clothing from recycled materials. You could hold a fashion show where students model the garments they have made on the catwalk!</p>	<p><b>Food and textiles contexts for developing technological skills and knowledge: First and Second</b></p> <ul style="list-style-type: none"> <li>• <i>Through discovery and imagination, I can develop and use problem-solving strategies to meet design challenges with a food or textile focus (TCH 1-11a)</i></li> </ul>

<p><b>Low Food Miles Cookbook</b> Please see page 5 for this project suggestion.</p> <p><b>Building an Oven</b> Please see page 6 for this project suggestion.</p>	<ul style="list-style-type: none"> <li>• <i>Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback (TCH 1-11b and TCH 2-11b).</i></li> </ul>
<p><b>Renewable Energy Vehicles</b> Construct model vehicles that use a source of renewable energy e.g. solar power to propel them. Build appropriate circuits incorporating small electric motors. Find out which vehicle can travel furthest/ fastest. Discuss alterations to designs that can improve them.</p> <p><b>Recycled Raft Race</b> Make a raft from recycled material e.g. plastic milk bottles, plastic barrels etc. If possible, use it to compete in a local officially organised raft race. <b>Appropriate risk assessments should be carried out and safety equipment worn as required.</b></p> <p><b>Recycled Kart Competition</b> Within class or year groups, organise a competition to build and race go-karts made from recycled materials. The karts should be unpowered and tested on a safe slope free from road traffic. <b>Appropriate risk assessments should be carried out and safety equipment worn as required.</b> Perhaps prizes could be given to the fastest/ most capacious/ most agile karts. Document activities using photography, written narrative and/or video.</p> <p><b>Building an Oven</b> Please see page 7 for this project suggestion.</p>	<p><b>Craft, design, engineering and graphics contexts for developing technological skills and knowledge: First and Second</b></p> <ul style="list-style-type: none"> <li>• <i>I explore materials, tools and software to discover what they can do and how I can use them to help solve problems and construct 3D objects which may have moving parts (TCH 1-12a).</i></li> <li>• <i>By applying my knowledge and skills of science and mathematics, I can engineer 3D objects which demonstrate strengthening, energy transfer and movement (TCH 2-12a).</i></li> <li>• <i>During practical activities and design challenges, I can estimate and measure using appropriate instruments and units (TCH 1-13a).</i></li> <li>• <i>Through discovery and imagination, I can develop and use problem-solving strategies to construct models (TCH 1-14a).</i></li> <li>• <i>Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback (TCH 1-14b).</i></li> </ul>