

Eco-Schools Curricular Maps - Waste Minimisation Topic

The series of 'Outcome Maps' in this document suggest how Curriculum for Excellence (CfE) Experiences and Outcomes may be delivered through the Eco-Schools Waste Minimisation Topic

Eco-Schools Scotland commissioned experienced teachers to select outcomes they felt appropriate for each topic.

Please note:

- The selected outcomes for each Map are advisory – teachers may reject or add outcomes which they consider more appropriate to the context in which they plan to teach.
- Eco-Schools 'Outcome Maps' are for guidance purposes only, are not exhaustive and should not be viewed as limiting.
- The first map illustrates how closely the Seven Elements of the Eco-Schools Programme match core outcomes from CfE
- Each subsequent topic map is accompanied by a header which suggests possible 'lead curricular areas'. Again these are open to debate and amendment by teachers.
- While similar in format not all Maps are identical – topics such as Health and Wellbeing are so closely related to Eco-Schools topics that almost all outcomes are relevant.
- Each outcome is normally quoted in full along with its relevant CfE code.
- Following piloting with teachers we have added a commentary in italics to some outcomes to explain their inclusion within an outcome map or suggest a possible teaching context. Linking 'arrows' on some topic maps highlight the opportunities for interdisciplinary learning across curricular areas.



Waste Minimisation Topic: Early Level

Sciences (Materials)

Through creative play, I explore different materials and can share my reasoning for selecting materials for different purposes. **SCN 0-15a** *Sorting what can be recycled or not*

By investigating how water can change from one form to another, I can relate my findings to everyday experiences. **SCN 0-05a** *Relate changes of state to the weather*

Health and Wellbeing (Food and health)

I explore and discover where foods come from as I choose, prepare and taste different foods. **HWB 0-35a** *Fairtrade, food miles, packaging*

Social Studies (People, past events and societies)

I have explored how people lived in the past and have used imaginative play to show how their lives were different from my own and the people around me. **SOC 0-04a** *Shopping for food in the past – packaging, storing food*

Social Studies (People, place and environment)

I explore and appreciate the wonder of nature within different environments and have played a part in caring for the environment. **SOC 0-08a** *Where does our rubbish go? Reporting litter and potential litter pick*

By exploring my local community, I have discovered the different roles people play and how they can help. **SOC 0-16a** *People who help us: street cleaners, binmen, litter wardens*

Technologies (Technological developments in society and business)

To help care for the environment, I reduce, re-use and recycle the resources I use. **TCH 0-06a** *Reuse paper, reduce water consumption, reduce energy usage by switching lights and TVs off*

Literacy (Listening and Talking)

I listen or watch for useful or interesting information and I use this to make choices or learn new things. **LIT 0-04a**

Expressive Arts (Art and design)

I have the freedom to discover and choose ways to create images and objects using a variety of materials. **EXA 0-02a** *Best type of packaging, waste collage, art from litter*

Numeracy and Mathematics (Information handling)

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** *Evaluating success by drawing graphs of amounts of recycled waste etc*

Expressive Arts (Art and design)

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** *Trash fashion, waste collage, art from litter*



Waste Minimisation Topic: Second Level

Sciences (Biological systems)

I have contributed to investigations into the role of microorganisms in producing and breaking down some materials. **SCN 2-13a** *Microorganisms in waste management, compost bins, wormeries*

Sciences (Materials)

I have investigated different water samples from the environment and explored methods that can be used to clean and conserve water and I am aware of the properties and uses of water. **SCN 2-18a** *Conservation of water as waste minimisation*

Health and Wellbeing (Food and health)

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 2-35a** *Packaging, food miles, Fairtrade*

Social Studies (People, past events and societies)

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** *Local shopping trends, packaging, litter issues, zero waste lifestyles*

Social Studies (People, place and environment)

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** *The 3'R's or 7'R's! Recycling, composting, issues with landfill, waste in the ocean*

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** *Debate on the proposed location of a new landfill or recycling facility*

Technologies (Technological developments in society and business)

I can analyse how lifestyles can impact on the environment and Earth's resources and can make suggestions about how to live in a more sustainable way. **TCH 2-06a** *Durability of materials, zero waste lifestyles, watch WALL-E*

Numeracy and Mathematics (Number, money and measure)

I can use my knowledge of the sizes of familiar objects or places to assist me when making an estimate of measure. **MNU 2-11a** *Once recycled materials have been collected then these can be used as a 'guess, check and improve' exercise before weighing.*

Numeracy and Mathematics (Information handling)

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. **MNU 2-20b** *The data for MNU 2-11a can be collated and recorded as tables, charts etc, for use by the whole school community*

Expressive Arts (Art and Design)

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** *Re-using materials as art resources, 'trash' fashion, litter collages*



Waste Minimisation Topic: Third Level

Social studies (People, place and environment)

Having investigated processes which form and shape landscapes, I can explain their impact on selected landscapes in Scotland, Europe and beyond. **SOC 3-07a**

I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact. **SOC 3-08a**

Social Studies (People in society, economy and business)

When participating in an enterprise activity, I can explore ethical issues relating to business practice and gain an understanding of how businesses help to satisfy needs. **SOC 3-20a** *Fair Trade principles*

Science (Planet Earth)

I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution. **SCN 3-01a** *Field study and internet to research*

Health and Wellbeing (Mental, emotional, social and physical wellbeing)

Through contributing my views, time and talents, I play a part in bringing about positive change in my school and wider community. **HWB 3-13a**

Health and Wellbeing (Physical education, physical activity and sport)

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. **HWB 3-25a** *Membership of After- school clubs, drama, sports etc.*

Technologies (Craft, design, engineering and graphics)

I can create solutions in 3D and 2D and can justify the construction/graphic methods and the design features., **TCH 3-09a** *helping to create outdoor seating, play equipment and illustrate*

I can explore the properties and performance of materials before justifying the most appropriate material for a task. **TCH 3-10a** *helping to create outdoor seating, play equipment and illustrate*

I can apply a range of graphic techniques and standards when producing images using sketching, drawing and software. **TCH 3-11a** *helping to create outdoor seating, play equipment and illustrate*

Numeracy and Mathematics (Number, money and measure)

I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy for the task and using a formula to calculate area or volume when required. **MNU 3-11a** *planning school gardens, raised flower beds etc.*

Numeracy and Mathematics (Shape, position and movement)

Having investigated a range of methods, I can accurately draw 2D shapes using appropriate mathematical instruments and methods. **MTH 3-16a** *planning school gardens, raised flower beds etc.*

Expressive Arts (Art and Design)

I have experimented with a range of media and technologies to create images and objects, using my understanding of their properties. **EXA 3-02a**

I can use and combine the visual elements and concepts to convey ideas, thoughts and feelings in expressive and design work. **EXA 3-03a** *Posters, diagrams, models*

While working through a design process in response to a design brief, I can develop and communicate imaginative design solutions. **EXA 3-06a**

Expressive Arts (Music)

I can use my voice, musical instruments or music technology to improvise or compose with melody, rhythm, harmony,



Waste Minimisation Topic: Fourth Level

Sciences (Materials)

I have explored how different materials can be derived from crude oil and their uses. I can explain the importance of carbon compounds in our lives. **SCN 4-17a** *Production of polymers and consequence of slow decomposition rates for waste storage and litter*

Sciences (Topical Science)

I have researched new developments in science and can explain how their current or future applications might impact on modern life. **SCN 4-20a** *The use of enzymes for decomposition of plastics*

Health and wellbeing (Food and the consumer)

I have examined and evaluated food packaging and can understand the legal requirements for manufacturers. **HWB 4-36a** *Consider requirements for recycling labels*

Social Studies (People, place and environment)

I can discuss the sustainability of key natural resources and analyse the possible implications for human activity. **SOC 4-08a** *Sustainability of primary industries currently and in future. Can complement science lessons*

Technologies (Technological developments in society and business)

I can analyse products taking into consideration sustainability, scientific and technological developments. **TCH 4-05a** *Consider structure and components of ICT equipment, recycling requirements of the WEEE directive and inherent dangers of some component materials*

Numeracy and Mathematics (Number, money and measure)

Through investigating real life problems involving the surface area of simple 3D shapes, I can explore ways to make the most efficient use of materials and carry out the necessary calculations to solve related problems. **MTH 4-11b** *Pupils may investigate the mathematics of food packaging and suggest ways of minimising the amount of packaging required for a particular product.*