

Eco-Schools Curricular Maps - Food & the Environment 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 Food & the Environment 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.



Food & the Environment Topic: Early Level

Sciences (Planet Earth)

I have observed living things in the environment over time and am becoming aware of how they depend on each other. **SCN 0-01a** *Food comes from living things. Animals eat food and plants don't*

I have helped to grow plants and can name their basic parts. I can talk about how they grow and what I need to do to look after them. **SCN 0-03a** *Grow bean sprouts.*

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** *Grow foods in a garden, care for the garden by adding compost and making compost. Explore the different environments of the grass, the soil, the compost heap*

Social Studies (People in society, economy and business)

By exploring my local community, I have discovered the different roles people play and how they can help. **SOC 0-16a** *Food producers, processors and retailers*

Numeracy and Mathematics (Number, money and measure)

I am developing a sense of size and amount by observing, exploring, using and communicating with others about things in the world around me. **NMU 0-01a** *How big is an apple? Can I eat a whole one? What about a melon? How many seeds are inside? What is the biggest or smallest seed I have seen?*

I can share out a group of items by making smaller groups and can split a whole object into smaller parts. **NMU 0-07a** *Share a punnet of raspberries with everyone in the room. Divide an apple into halves and quarters*

I am aware of how routines and events in my world link with times and seasons, and have explored ways to record and display these using clocks, calendars and other methods **NMU 0-10a** *Mealtimes through the day. What time of year do we plant out seeds? What time of year are crops ready to harvest? What time of year does the soil rest?*

Religious and moral education (World religions selected for study)

I am becoming aware of the importance of celebrations, festivals and customs in religious people's lives. **RME 0-06a** *Celebrations with special food e.g. Christmas, Easter, Fasting/Abstinence*

Technologies (Food and textile technology)

I enjoy exploring and working with foods in different contexts **TCH 0-04a**

I enjoy playing with and exploring technologies to discover what they can do and how they can help us. **TCH 0-05a** *Refrigeration, cooking, gardening tools, kitchen tools*

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** *Foods from different plants and animals and how they get to shops, different parts of plants as foods*



Food & the Environment Topic:

First Level

Sciences (Planet Earth)

I can distinguish between living and non living things. I can sort living things into groups and explain my decisions. **SCN 1-01a** *The need for nutrition is shared with all living things including plants (which make their own food)*

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 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** *Grow different crops and crop varieties*

Sciences (Biological systems)

I have explored my senses and can discuss their reliability and limitations in responding to the environment. **SCN 1-12b** *Using senses to recognise spoiled food, why do we use other ways to prevent eating spoiled food?*

I know the symptoms of some common diseases caused by germs. I can explain how they are spread and discuss how some methods of preventing and treating disease benefit society. **SCN 1-13a** *Hygienic food prep and storage*

Social Studies (People, past events and societies)

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** *Growing food in a castle kitchen garden/school garden. Consider sources and availability of tools and seed*

Social Studies (People, place and environment)

Having explored the variety of foods produced in Scotland, I can discuss the importance of different types of agriculture in the production of these foods. **SOC 1-09a** *Scottish seas as a source of food, land unsuitable for crops is often used for livestock*

By exploring climate zones around the world, I can compare and describe how climate affects living things. **SOC 1-12b** *What foods grow where and why?*

Technologies (Food and textile technology)

I can use a range of simple food preparation techniques when working with food **TCH 1-04a**

I am developing and using problem solving strategies to meet challenges with a food or textile focus **TCH 1-04c** *Design a garden to grow food, consider best use of space and seed/bulb arrangement*

Technologies (Technological developments in society and business)

I can take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment. **TCH 1-06a** *Healthy snack packaging, reducing food packaging waste, making and using compost, short food journeys from source to plate*

I understand how technologies help provide for our needs and wants, and how they can affect the environment in which we live. **TCH 1-07a** *refrigeration, cooking, agricultural machinery, kitchen tools*

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 1-35a** *What grows where? When are the harvest times? How does food get from the field to the table?*

I am discovering the different ways that advertising and the media can affect my choices. **HWB 1-37a** *What food adverts can you remember? Why do you remember them?*



Food & the Environment Topic:

Second Level

Social Studies (People, past events and societies)

I can discuss why people and events from a particular time in the past were important, placing them within a historical sequence. **SOC 2-06a** *Impact of development of agriculture*

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** *Food production processing and waste, food labelling to indicate origin, organic, ethical assurance labels*

Having explored the ways 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** *Food miles and transport*

Social Studies (People in society, economy and business)

I can discuss issues of the diversity of cultures, values and customs in our society. **SOC 2-16c** *Food cultures and customs*

Expressive arts (Art and design)

I can develop and communicate my ideas, demonstrating imagination and presenting at least one possible solution to a design problem. **EXA 2-06a** *Food packaging design*

I can respond to the work of artists and designers by discussing my thoughts and feelings. I can give and accept constructive comment on my own and others' work. **EXA 2-07a** *Food in art*

Technologies (Food and textile technology)

I am developing dexterity, creativity and confidence when preparing and cooking food **TCH 2-04a**

Technologies (Craft, design, engineering and graphics)

I can recognise basic properties and uses for a variety of materials and can discuss which ones are most suitable for a given task. **TCH 2-10a** *Food packaging for travel, hygiene, sustainability*

Health and Wellbeing (Food and Health)

Through exploration and discussion, I can understand that food practices and preferences are influenced by factors such as food sources, finance, culture and religion. **HWB 2-34a** *How many of our food choices include consideration for sustainability? Eating lower down the food chain, methods of production, packaging and food miles.*

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** *What grows where? When are the harvest times? How does food get from the field to the table?*

I can understand how advertising and the media are used to influence consumers. **HWB 2-37a** *What food advertisements are targeted at children? How do you know they are targeted at children?*

Literacy (Writing)

I consider the impact that layout and presentation will have and can combine lettering, graphics and other features to engage my reader. **LIT 2-24a** *Layout and presentation of writing on packaging.*

I can persuade, argue, explore issues or express an opinion using relevant supporting detail and/or evidence. **LIT 2-29a** *Why buy/eat local food? Why support ethical trading schemes?*

Numeracy and Mathematics (Number, money and measure)

I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others. **MNU 2-01a** *Estimate how many sacks of potatoes are needed for school dinners this week. Check this with catering staff*

I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems. **MNU 2-07a** *How many potatoes should be cooked each day for school dinners?*

I can manage money, compare costs from different retailers, and determine what I can afford to buy. **MNU 2-09a** *Affordability of food. Comparative costs of Fairtrade, organic produce.*

Numeracy and Mathematics (Shape, position and movement)

Through practical activities, I can show my understanding of the relationship between 3D objects and their nets. **MNU 2-16b** *Pulling packaging apart to discover its net.*



Food & the Environment Topic:

Third Level

Sciences (Planet Earth)

Through investigations and based on experimental evidence, I can explain the use of different types of chemicals in agriculture and their alternatives and can evaluate their potential impact on the world's food production. **SCN 3-03a** *Natural and artificial fertilisers, less dependence on natural systems of nitrogen replenishing*

Sciences (Biological systems)

I have contributed to investigations into the different types of microorganisms and can explain how their growth can be controlled. **SCN 3-13b** *Food decomposition, preservation by pickling/drying/jam making/salting*

Sciences (Materials)

Through evaluation of a range of data, I can describe the formation, characteristics and uses of soils, minerals and basic types of rocks. **SCN 3-17a** *Soil type relating to sustaining crops. Time comparison for soil formation and erosion*

Sciences (Topical Science)

Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications. **SCN 3-20b** *GM and cloning relating to food supply. Consider the precautionary principle*

Social Studies (People, past events and societies)

I can explain the similarities and differences between the lifestyles, values and attitudes of people in the past by comparing Scotland with a society in Europe or elsewhere. **SOC 3-04a** *Climatic, food production and processing (run-rig, lazy beds, communities)*

Social Studies (People, place and environment)

I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact. **SOC 3-08a** *Industrial agriculture, reliance on fertilisers (from fossil fuels) and eutrophication, baby-blue syndrome, resource depletion*

I can compare the social and economic differences between more and less economically-developed countries and can discuss the possibilities for reducing these differences. **SOC 3-11a** *Subsistence farming, industrialisation of agriculture, technology transfer, export markets and trade agreements. Fairtrade and ethical food labels.*

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** *Healthy tuck shop, selling school grown produce, Fairtrade schools*

Religious and moral education (World religions selected for study)

I can demonstrate my developing understanding of moral values through participating in events and projects which make a positive difference to others. **RME 3-05b** *Attitudes to food production and consumption. Food in religious practice and festivals. Ethical trading schemes/ Fairtrade cafe*

I am developing my own understanding of values such as honesty, respect and compassion and am able to identify how these values might be applied in relation to moral issues. **RME 3-09b** *Values associated with food e.g. related to waste, method of production, diet, ethical trading*

Technologies (Food and textile technology)

I am gaining confidence and dexterity in the use of ingredients and equipment and can apply specialist skills in preparing food. **TCH 3-04a**

By using problem-solving strategies and showing creativity in a design challenge, I can plan, develop, make and evaluate food or textile items which meet needs at home or in the world of work. **TCH 3-04c**

Numeracy and Mathematics (Number, money and measure)

I can show how quantities that are related can be increased or decreased proportionally and apply this to solve problems in everyday contexts. **MNU 3-08a** *How many people is the recipe for?*

When considering how to spend my money, I can source, compare and contrast different contracts and services, discuss their advantages and disadvantages, and explain which offer best value to me. **MNU 3-09a** *Compare prices of products with different production methods.*

I can budget effectively, making use of technology and other methods, to manage money and plan for future expenses. **MNU 3-09b** *Budget for a FairTrade cafe*



Food & the Environment Topic: Fourth Level

Sciences (Planet Earth)

I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity. **SCN 4-01a** *Ecosystem services for food production e.g. bees as pollinators, decomposers in nutrient cycles etc*

I have propagated and grown plants using a variety of different methods. I can compare these methods and develop my understanding of their commercial use. **SCN 4-02a**

Through investigating the nitrogen cycle and evaluating results from practical experiments, I can suggest a design for a fertiliser, taking account of its environmental impact. **SCN 4-03a** *Make and use a fertiliser*

Sciences (Biological systems)

Through evaluation of a range of data, I can compare sexual and asexual reproduction and explain their importance for survival of species. **SCN 4-14b** *Consider the Irish potato famine*

I can use my understanding of how characteristics are inherited to solve simple genetic problems and relate this to my understanding of DNA, genes and chromosomes. **SCN 4-14c** *Plant and livestock breeding, GM crops*

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** *Crude oil as a source of materials for fertilisers, pesticides, transport, packaging*

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** *GM crops*

Social Studies (People, past events and societies)

By studying groups in past societies who experienced inequality, I can explain the reasons for the inequality and evaluate how groups or individuals addressed it. **SOC 4-04a** *Relate to land ownership and access to food, inequality and the Irish potato farm*

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** *Use of fossil fuels in food production, habitat destruction for agriculture, soil erosion and depletion of soil fertility*

Having evaluated the role of agriculture in the production of food and raw material, I can draw reasoned conclusions about the environmental impacts and sustainability. **SOC 4-09a** *Monoculture and deforestation. Crops as food versus crops as biofuel.*

I can assess the impact of developments in transport infrastructure in a selected area and can contribute to a discussion on the development of sustainable systems. **SOC 4-09b** *Food supply chain and distribution*

Having researched the globalisation of trade, I can explain the interdependence of different parts of the world and assess the impacts for providers, consumers and the environment. **SOC 4-11a** *Investigate the banana market – volume and methods of production, social justice*

I can carry out a geographical enquiry to assess the impact and possible outcomes of climate change on a selected region and can propose strategies to slow or reverse the impact. **SOC 4-12b** *Development of new crop varieties in Scotland and around the world eg saline resistant crops in Bangladesh*

Technologies (Food and textile technology)

I can explore the properties and functionality of ingredients, textiles and equipment to establish their suitability for a task at home or in the world of work. **TCH 4-04a**

I can confidently apply preparation techniques and processes to make food and textile items using specialist skills, materials, equipment in my place of learning, at home or in the world of work. **TCH 4-04b**

Showing creativity and innovation I can design, plan and produce increasingly complex food or textile items which satisfy the needs of the user, at home or in the world of work. **TCH 4-04c**

Health and Wellbeing (Food and Health)

Having explored a range of issues which may affect food choice, I can discuss how this could impact on the individual's health. **HWB 4-34a** *Pupils may explore parallels between a healthy diet and a sustainable one.*

I have examined and evaluated food packaging and can understand the legal requirements for manufacturers. **HWB 4-36a** *Pupils may investigate information to help assess the sustainability of a product or the regulations concerning labelling of products containing GM ingredients*

By investigating different influences on the consumer, I can discuss how consumers can be influenced by external sources. **HWB 4-37a** *Awareness of marketing techniques, target audiences and food advertising campaigns – products and retailers. What 'environmentally friendly' messages are there. How accurate are they?*

Literacy (Writing)

I can justify my choice and use of layout and presentation in terms of the intended impact on my reader. **LIT 4-24a** *Pupils might create a marketing strategy for a sustainable food product*

Expressive Arts (Drama)

Having had opportunities to lead negotiation and decision making, I can work on my own and with others to devise, rehearse and refine dramas and scripts. **EXA 4-14a** *Documentary style presentation of food stories in the news/past news events*