

SECTION 4

National Curriculum Links with School Wildlife Gardens

For a more detailed guide to projects and topics, please refer to the Ecology Service Environmental Education Pack.

SCIENCE

KEY STAGE 1

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| 1) Find out about the different plants and animals in the local environment | <ul style="list-style-type: none">• Woodland mini-beast hunt• Meadow mini-beast hunt• Pond dipping• Plant and animal identification |
| 2) Identify similarities and differences between local environments and ways in which these affect the animals and plants found there | <ul style="list-style-type: none">• Compare woodland, meadow and pond mini-beasts: where do they live, how do they move in their environment |
| 3) Care for the environment | <ul style="list-style-type: none">• Respect all living things• Creatures living in the wild• Study pollution and conservation |

KEY STAGE 2

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| 1) Ways in which living things and the environment need protection | <ul style="list-style-type: none">• Return creatures to their wild home• Don't drop litter or uproot plants• Water pollution |
| 2) Adaptation: how animals and plants are suited to different habitats | <ul style="list-style-type: none">• Adaptations and comparisons of woodland, meadow and pond mini-beasts and plants• Fungi• Metamorphosis (frogs, butterflies) |
| 3) Food Chains: how food chains show feeding relationships in an ecosystem | <ul style="list-style-type: none">• Woodland food chains• Meadow food chains• Pond food chains |
| 4) Learning that nearly all food chains start with a green plant | <ul style="list-style-type: none">• Woodland plants• Meadow plants• Pond plants |
| 5) Learning that micro-organisms exist and that some are beneficial to humans and some are harmful | <ul style="list-style-type: none">• Decomposers and soils• Leaf litter• Mulching and composting |
| 6) Plant growth is affected by the availability of light and water, and by temperature | <ul style="list-style-type: none">• Growing seeds and plugs in the classroom to plant in the meadow• Tree growth |

KEY STAGE 3

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| 1) Different habitats support different plants and animals | <ul style="list-style-type: none">• Comparison of animals and plants from different habitats and of different habitats• Fungi• Metamorphosis (frogs, butterflies) |
| 2) How some organisms are adapted to survive daily and seasonal changes in their habitat | <ul style="list-style-type: none">• Hibernation• Leaf fall• Nocturnal & diurnal species |

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| 3) Certain factors affect the size of populations | <ul style="list-style-type: none"> • Size of habitat • Food availability • Number of animals/plants within the population |
| 4) Nutrition and growth of green plants | <ul style="list-style-type: none"> • Growing plugs in the classroom to plant in the meadow • Tree growth • Photosynthesis |

KEY STAGE 4

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| 1) How scientific and technological developments benefit or harm individuals and the environment | <ul style="list-style-type: none"> • Study the plants in your wildlife and/or herb garden and see if they are beneficial to industry or to communities |
| 2) Relating scientific knowledge and understanding to the care of living things and their environment | <ul style="list-style-type: none"> • Conservation studies of species and habitats found in your wildlife garden |
| 3) The role of microbes in the decomposition of organic materials | <ul style="list-style-type: none"> • Pond decomposition • Soil studies • Composting |
| 4) Factors that affect the rate of photosynthesis | <ul style="list-style-type: none"> • Water, light and nutrient investigations |

ENGLISH

KEY STAGES 1 AND 2

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| 1) Speaking and Listening | <ul style="list-style-type: none"> • Performing drama activities in the wildlife garden • Listening to the sounds found in nature • Learning new words concerning wildlife and the environment |
| 2) Reading | <ul style="list-style-type: none"> • Discovering and reading nature and environmental stories and poems that may contain challenging subject matter to broaden perspectives and extend thinking |
| 3) Writing | <ul style="list-style-type: none"> • Creating poems, prose and stories based on experiences in the wildlife garden |

KEY STAGES 3 AND 4

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|---------------------------|--|
| 1) Speaking and Listening | <ul style="list-style-type: none"> • Consider and discuss local, national and international conservation and environmental issues |
| 2) Reading | <ul style="list-style-type: none"> • Read environmental texts from other cultures and traditions. Compare their methods of environmental education and conservation with those that you employ in your wildlife garden |
| 3) Writing | <ul style="list-style-type: none"> • Write to inform others of your wildlife garden; write an article for the local press or for a gardener's newsletter • Take notes from written and oral sources; perhaps invite a professional conservationist to talk about their organisation and environmental policies |

MATHEMATICS

KEY STAGES 1 AND 2

- 1) Applying measuring skills in a range of purposeful contexts (Shape, Space and Measure)
 - Measure areas of the garden and set out shaped areas for different uses, i.e. meadow, log pile sites
 - Measure heights of trees and record plant growth
- 2) Collecting, representing and interpreting data (Handling Data)
 - Counting and measuring plants and animals; make graphs and charts of the results
 - Work out the number of plants/seeds needed to sow your wild flower meadow and calculate the cost

KEY STAGES 3 AND 4

- 1) Explore shape and space through drawing and practical work and develop an understanding of scale (Shape, Space and Measure)
 - Draw scientific diagrams and maps with the correct measurements of the wildlife garden and the various habitats within it.
- 2) Design a questionnaire or experiment to capture the data needed to follow lines of enquiry and to test hypotheses (Handling Data)
 - Design a questionnaire before the garden is created to acquire data for the planning of the garden and what members of the school would like to use it for
 - Follow the growth of the garden; evaluate whether it is meeting people's expectations
 - Use your meadow: for example, predicting and tracking how many of the plugs/seeds planted will be successful
- 3) Constructing appropriate diagrams and graphs
 - Construct diagrams and graphs for the above

DESIGN & TECHNOLOGY

KEY STAGES 1 AND 2

- 1) Work with a wide range of materials
 - Design stools, chairs and animal statues from logs for the wildlife area
 - Work with natural materials such as reeds, straw, hay, leaves, twigs, etc
 - Create nature collages and birdfeeders
 - Design your own garden equipment using recycled materials (old tyres, railway sleepers, etc)
- 2) Relate the way things work to their intended purpose, how materials have been used and if they are effective
 - Discuss thatched roofs, reed beds for sewer maintenance, hedgerow use, dead hedges, fences
 - Consider how rainwater can be collected from your school roof and run directly into your wildlife pond

KEY STAGE 3

- 1) Judging a technological product in terms of its impact on the environment
 - Discuss the effects that washing up liquid and other detergents have on the environment (perhaps in relation to your wildlife pond)
 - Consider your school's water system, and whether you could construct an alternative and ecologically friendly school water system
- 2) Consider the aesthetics, function, safety, reliability and cost of designs
 - Consider all the above factors when planning and landscaping your wildlife garden

KEY STAGE 4

- 1) Recognise that moral, economic, social, cultural and environmental issues can make conflicting demands on a design
 - Some of these factors should relate directly to the creation of your wildlife garden.
- 2) Judge the quality of a product in terms of whether it is an appropriate use of resources
 - How much money have you spent on your school wildlife garden, could the school have used this money in a more economic manner and on a different project?
 - How has the wildlife garden benefited the school?
 - Have the products that you have designed for the wildlife garden been environmentally and economically sustainable?

HISTORY

KEY STAGES 1 AND 2

- 1) Studying life in town and country
 - Consider which animals and plants would have been found across the ages and which have survived into the present day
 - Consider how the Romans, Anglo-Saxons and Vikings would have grown their food, find out if their herb gardens were similar to those in your school
- 2) Consider the impact of industrialisation
 - Compare the gardening tools that were used in the past with the tools you use in your wildlife garden
 - Consider the impact of industrialisation on air pollution, particularly if your school is near any factories or railway stations
- 3) Studying the history of your local environment
 - Discover the history of your schools site and grounds, including the wildlife garden
 - Research the history of your local parks, woodlands and other green spaces, whether these are protected, for how long they have been protected, what were they originally used for

KEY STAGE 3

- 1) Learning about changes in town and countryside
 - Investigate different techniques used in traditional countryside management i.e.: coppicing, haymaking, harvesting
 - Understand the effects of countryside management on wildlife and apply these to your school wildlife garden

KEY STAGE 4

- 1) Key events and developments that occurred during the periods specified by the GCSE syllabus
 - Discover if there were any key events and developments that have occurred in your school grounds or your local green space e.g. when and in what circumstances Holland House and its grounds opened for public access
- 2) History through a range of sources of information, including buildings and sites
 - Investigate the history of the site that your school was built upon
 - Investigate the history of the species in your wildlife garden

GEOGRAPHY

KEY STAGES 1 AND 2

- 1) Learning how people affect the environment and how and why people seek to manage and sustain their environment
 - Discuss how you affect your environment and look at ways of managing your wildlife garden to attract more wildlife
- 2) Studying weather conditions
 - Keep a chart of the weather over a certain time period, observing how changes in weather affect plant growth and animal behaviour in your wildlife garden

KEY STAGE 3

- 1) Learn about the characteristics of one type of vegetation and how that type of vegetation is related to climate, soil and human activity
 - Learn about the vegetation in your wildlife garden and consider its relationship with climate, soil and human activity
- 2) Study the supply of water and its environmental implications
 - Investigate the water supply to your wildlife garden, how often you have to top up the pond, water the meadow, etc
 - Measure the amount of rainfall in your school grounds; compare with other regions in the UK

KEY STAGE 4

- 1) Develop a sense of place and an appreciation of the environment
 - Create a 'wildlife garden committee' whose members are responsible for overseeing the development and maintenance of the wildlife garden
 - Discuss how people of different countries and cultures work with and appreciate the environment
- 2) Study of the interrelationships between people and the environment
 - Design a questionnaire that investigates how people in your locality interrelate with the environment
 - Investigate how the pupils at your school relate to their local environment, including the wildlife garden

MODERN FOREIGN LANGUAGES

KEY STAGES 1 AND 2

- 1) Learning new words
 - Name and draw species in your wildlife garden using a foreign language
- 2) Speaking and Writing
 - Write and read aloud simple nature stories in a foreign language

KEY STAGES 3 AND 4

- 1) Study foreign towns, people, places and customs
 - Research conservation management techniques used in other countries that could be used in your wildlife garden
 - Investigate local gardening/environmental customs
- 2) Study world events
 - Study events such as 'World Wetlands Day' and 'International Dawn Chorus Day'; and how these events are celebrated throughout the world
 - Aim to involve your school in these international events