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| **Programmes of Study** | **Notes and guidance** | **Starting points** | **Enquiry questions and activities** |
| **Year 1****Plants**Pupils should be taught to:  identify and name a variety of common wild and garden plants, including deciduous and evergreen trees  identify and describe the basic structure of a variety of common flowering plants, including trees.  | Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted. They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem). **Pupils might work scientifically by**: observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees. Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants.  |  |  |
| **Year 2****Plants**Pupils should be taught to:  observe and describe how seeds and bulbs grow into mature plants  find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.  | Pupils should use the local environment throughout the year to observe how different plants grow. Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants. **Note:** Seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them. **Pupils might work scientifically by:** observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.  |

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| **Year 3****Plants**Pupils should be taught to:  identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers  explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant  investigate the way in which water is transported within plants  explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.  | Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction. **Note:** Pupils can be introduced to the idea that plants can make their own food, but at this stage they do not need to understand how this happens. **Pupils might work scientifically by**: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. They might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.  |  |  |
| **Year 4****Living things and their habitats - Plants**Pupils should be taught to:  recognise that living things can be grouped in a variety of ways  explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment  recognise that environments can change and that this can sometimes pose dangers to living things.  | Pupils should use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat. They should identify how the habitat changes throughout the year. Pupils should explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants. **Note:** Plants can be grouped into categories such as flowering plants (including grasses) and non-flowering plants, such as ferns and mosses. Pupils should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation. **Pupils might work scientifically by:** using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things;  |

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| **Year 5****Living things and their habitats - Plants**Describe the life process of reproduction in some plants and animals.  | Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals. **Pupils might work scientifically by:** observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs.  |  |  |
| **Year 6****Living things and their habitats - Plants**Pupils should be taught to:  describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals  give reasons for classifying plants and animals based on specific characteristics.  | Pupils should build on their learning about grouping living things in year 4 by looking at the classification system in more detail. They should be introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided. They should discuss reasons why living things are placed in one group and not another. **Pupils might work scientifically by:** using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.  |  |  |