**NORTH HEATH CP SCHOOL**
**National Curriculum Knowledge Map**

| Curriculum Group 1 | KS1 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 |
| **Working Scientifically** | To ask simple questions and recognising that they can be answered in different ways | | | | | | | | | | | | |
| | To observe closely, using simple equipment | | | | | | | | | | | | |
| | To perform simple tests | | | | | | | | | | | | |
| | To identify and classify | | | | | | | | | | | | |
| | To use their observations and ideas to suggest answers to questions | | | | | | | | | | | | |
| | To gather and record data to help in answering questions | | | | | | | | | | | | |
| **Science** | **Plants** To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees | | | | | | | | | | | | |
| | To identify and describe the basic structure of a variety of common flowering plants, including trees | | | | | | | | | | | | |
| | To observe and describe how seeds and bulbs grow into mature plants | | | | | | | | | | | | |
| | To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy | | | | | | | | | | | | |
| | **Animals including humans** To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals | | | | | | | | | | | | |
| | To identify and name a variety of common animals that are carnivores, herbivores and omnivores | | | | | | | | | | | | |
| | To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) | | | | | | | | | | | | |
| | To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense | | | | | | | | | | | | |
| | To notice that animals, including humans, have offspring which grow into adults | | | | | | | | | | | | |
| | To find out about and describe the basic needs of animals, including humans, for survival (water, food and air) | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene | | | | | | | | | | | | |
| | **Seasonal Changes** To observe changes across the four seasons | | | | | | | | | | | | |
| | To observe and describe weather associated with the seasons and how day length varies. | | | | | | | | | | | | |
| **Curriculum Group 1** | **KS1 National Curriculum Objectives** *Pupils should be taught:* | **Autumn 1** | | **Autumn 2** | | **Spring 1** | | **Spring 2** | | **Summer 1** | | **Summer 2** | |
| | | **Y1** | **Y2** | **Y1** | **Y2** | **Y1** | **Y2** | **Y1** | **Y2** | **Y1** | **Y2** | **Y1** | **Y2** |
| | **Living things and their habitats** To explore and compare the differences between things that are living, dead, and things that have never been alive | | | | | | | | | | | | |
| | To identify that most living things live in habitats to which they are suited and describe how different habitats provide for their basic needs | | | | | | | | | | | | |
| | To identify and name a variety of plants and animals in their habitats, including micro-habitats | | | | | | | | | | | | |
| | To describe how animals obtain their food from plants and other animals, using the idea of a food chain, and identify different sources of food | | | | | | | | | | | | |
| | **Everyday Materials and their uses** To distinguish between an object and the material from which it is made | | | | | | | | | | | | |
| | To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock | | | | | | | | | | | | |
| **Science** | To describe the simple physical properties of a variety of everyday materials | | | | | | | | | | | | |
| | To compare and group together a variety of everyday materials on the basis of their simple physical properties. | | | | | | | | | | | | |
| | To identify and compare the suitability of everyday materials, inc. wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses | | | | | | | | | | | | |
| | To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching | | | | | | | | | | | | |

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| Curriculum Group 1 | KS2 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 |
| Working Scientifically | Asking relevant questions and using different types of scientific enquiries to answer them | | | | | | | | | | | | |
| | Setting up simple practical enquiries, comparative and fair tests | | | | | | | | | | | | |
| | Making systematic and careful observations, taking accurate measurements using standard units, and a range of equipment, incl data loggers | | | | | | | | | | | | |
| | Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions | | | | | | | | | | | | |
| | Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables | | | | | | | | | | | | |
| | Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions | | | | | | | | | | | | |
| | Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions | | | | | | | | | | | | |
| | Identifying differences, similarities or changes related to simple scientific ideas and processes | | | | | | | | | | | | |
| | Using straightforward scientific evidence to answer questions or to support their findings. | | | | | | | | | | | | |
| Science | **Plants** To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers | | | | | | | | | | | | |
| | To explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary between plants | | | | | | | | | | | | |
| | To investigate the way in which water is transported within plants | | | | | | | | | | | | |
| | To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal | | | | | | | | | | | | |
| | **Rocks** To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties | | | | | | | | | | | | |
| | To describe in simple terms how fossils are formed when things that have lived are trapped within rock | | | | | | | | | | | | |

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| | KS2 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 |
| **Curriculum Group 1** | **Animals including humans** To identify that animals need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat | | | | | | | | | | | | |
| | **To identify that humans and some other animals have skeletons and muscles for support, protection and movement**. | | | | | | | | | | | | |
| | To describe the simple functions of the basic parts of the digestive system in humans | | | | | | | | | | | | |
| | To identify the different types of teeth in humans and their simple functions | | | | | | | | | | | | |
| | To construct and interpret a variety of food chains, identifying producers, predators and prey | | | | | | | | | | | | |
| **Science** | **Light** To recognise that they need light in order to see things and that dark is the absence of light | | | | | | | | | | | | |
| | To notice that light is reflected from surfaces | | | | | | | | | | | | |
| | To recognise that light from the sun can be dangerous and that there are ways to protect their eyes | | | | | | | | | | | | |
| | To recognise that shadows are formed when the light from a light source is blocked by an opaque object | | | | | | | | | | | | |
| | To find patterns in the way that the size of shadows change. | | | | | | | | | | | | |
| | **Forces and Magnets**<br>To compare how things move on different surfaces | | | | | | | | | | | | |
| | To notice that some forces need contact between two objects, but magnetic forces can act at a distance | | | | | | | | | | | | |
| | To observe how magnets attract or repel each other and attract some materials and not others | | | | | | | | | | | | |

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| | To compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials | | | | | | | | | | | | |
| | To describe magnets as having two poles | | | | | | | | | | | | |
| | To predict whether two magnets will attract or repel each other, depending on which poles are facing | | | | | | | | | | | | |

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| Curriculum Group 1 | KS2 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 | Y3 | Y4 |
| Science | **Living things and their habitats**<br>To recognise that living things can be grouped in a variety of ways | | | | | | | | | | | | |
| | To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment | | | | | | | | | | | | |
| | To recognise that environments can change and that this can sometimes pose dangers to living things. | | | | | | | | | | | | |
| | **States of Matter** To compare and group materials together, according to whether they are solids, liquids or gases | | | | | | | | | | | | |
| | To observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in °C | | | | | | | | | | | | |
| | To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature | | | | | | | | | | | | |
| | **Sound** To identify how sounds are made, associating some of them with something vibrating | | | | | | | | | | | | |
| | To recognise that vibrations from sounds travel through a medium to the ear | | | | | | | | | | | | |
| | To find patterns between the pitch of a sound and features of the object that produced it | | | | | | | | | | | | |
| | To find patterns between the volume of a sound and the strength of the vibrations that produced it | | | | | | | | | | | | |
| | To recognise that sounds get fainter as the distance from the sound source increases | | | | | | | | | | | | |
| | **Electricity**<br>To identify common appliances that run on electricity | | | | | | | | | | | | |
| | To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers | | | | | | | | | | | | |
| | To identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery | | | | | | | | | | | | |

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| | To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit | | | | | | | | | | | | |
| | To recognise some common conductors and insulators, and associate metals with being good conductors. | | | | | | | | | | | | |
| | To identify common appliances that run on electricity | | | | | | | | | | | | |

| Curriculum Group 1 | KS2 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 |
| Working Scientifically | Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary | | | | | | | | | | | | |
| | Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate | | | | | | | | | | | | |
| | Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs | | | | | | | | | | | | |
| | Using test results to make predictions to set up further comparative and fair tests | | | | | | | | | | | | |
| | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | | | | | | | | | | | | |
| | Identifying scientific evidence that has been used to support or refute ideas or arguments | | | | | | | | | | | | |
| Science | **Living thing and their habitat** Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird | | | | | | | | | | | | |
| | Describe the life process of reproduction in some plants and animals. | | | | | | | | | | | | |
| | Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird | | | | | | | | | | | | |

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| | 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. | | | | | | | | | | | | |
| | **Animals including humans**<br>Describe the changes as humans develop to old age | | | | | | | | | | | | |
| | Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood | | | | | | | | | | | | |
| | Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function | | | | | | | | | | | | |
| | Describe the ways in which nutrients and water are transported within animals, including humans. | | | | | | | | | | | | |

| **Curriculum Group 1** | **KS2 National Curriculum Objectives**<br>*Pupils should be taught:* | **Autumn 1** | | **Autumn 2** | | **Spring 1** | | **Spring 2** | | **Summer 1** | | **Summer 2** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Y5** | **Y6** | **Y5** | **Y6** | **Y5** | **Y6** | **Y5** | **Y6** | **Y5** | **Y6** | **Y5** | **Y6** |
| | **Properties and changes of materials** Compare and group together everyday materials on the basis of their properties, | | | | | | | | | | | | |
| | Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution | | | | | | | | | | | | |
| | Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating | | | | | | | | | | | | |
| | Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic | | | | | | | | | | | | |
| | Demonstrate that dissolving, mixing and changes of state are reversible changes | | | | | | | | | | | | |
| | Explain that some changes result in the formation of new materials, and that this kind of change is not usually | | | | | | | | | | | | |
| | **Earth and Space** Describe the movement of the Earth, and other planets, relative to the Sun in the solar system | | | | | | | | | | | | |
| **Science** | Describe the movement of the Moon relative to the Earth | | | | | | | | | | | | |

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| | Describe the Sun, Earth and Moon as approximately spherical bodies | | | | | | | | | | | | |
| | Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. | | | | | | | | | | | | |
| | **Forces** Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object | | | | | | | | | | | | |
| | Identify the effects of air resistance, water resistance and friction, that act between moving surfaces | | | | | | | | | | | | |
| | Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. | | | | | | | | | | | | |

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| Curriculum Group 1 | KS2 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 | Y5 | Y6 |
| Science | **Evolution and Inheritance** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago | | | | | | | | | | | | |
| | Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents | | | | | | | | | | | | |
| | Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. | | | | | | | | | | | | |
| | **Light**<br>Recognise that light appears to travel in straight lines | | | | | | | | | | | | |
| | Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye | | | | | | | | | | | | |
| | Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes | | | | | | | | | | | | |
| | Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. | | | | | | | | | | | | |
| | **Electricity**<br>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit | | | | | | | | | | | | |
| | Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches | | | | | | | | | | | | |
| | Use recognised symbols when representing a simple circuit in a diagram. | | | | | | | | | | | | |

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| Curriculum Group 1 | KS1 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 | Y1 | Y2 |
| Computing | To understand what algorithms are; how they are implemented as programs on digital devices; and that programs follow unambiguous instructions | | | | | | | | | | | | |
| | To create and debug simple programs | | | | | | | | | | | | |
| | To use logical reasoning to predict the behaviour of simple programs | | | | | | | | | | | | |
| | To use technology purposefully to create, organise, store, manipulate and retrieve digital content | | | | | | | | | | | | |
| | **To recognise common uses of information technology beyond school** | | | | | | | | | | | | |
| | To use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies | | | | | | | | | | | | |

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| Curriculum Group 1 | KS2 National Curriculum Objectives<br>*Pupils should be taught:* | Autumn | | | | Spring | | | | Summer | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y3 | Y4 | Y5 | Y6 | Y3 | Y4 | Y5 | Y6 | Y3 | Y4 | Y5 | Y6 |
| **Computing** | To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts | | | | | | | | | | | | |
| | To use sequence, selection, and repetition in programs; work with variables and various forms of input and output | | | | | | | | | | | | |
| | To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | | | | | | | | | | | | |
| | To understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration | | | | | | | | | | | | |
| | To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | | | | | | | | | | | | |
| | To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information | | | | | | | | | | | | |
| | To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | | | | | | | | | | |