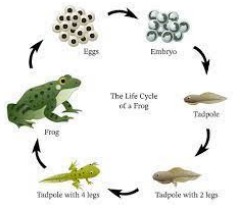
# National Curriculum Expectations/Progression Map for Science

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| Animals Including Humans  | **Pupils should be taught to:**<br>• identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals<br>• identify and name a variety of common animals that are carnivores, herbivores and omnivores<br>• describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)<br>• identify, name, | **Pupils should be taught to:**<br>• notice that animals, including humans, have offspring which grow into adults<br>• find out about and describe the basic needs of animals, including humans, for survival (water, food and air)<br>• describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. | **Pupils should be taught to:**<br>• identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food they get nutrition from what they eat<br>• identify that humans and some other animals have skeletons and muscles for support, protection and movement. | **Pupils should be taught to:**<br>• describe the simple functions of the basic parts of the digestive system in humans<br>• identify the different types of teeth in humans and their simple functions<br>• construct and interpret a variety of food chains, identifying producers, predators and prey. | **Pupils should be taught to:**<br>• describe the changes as humans develop to old age. | **Pupils should be taught to:**<br>• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood<br>• recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function<br>• describe the ways in which nutrients and water are transported within animals, including humans. |

# National Curriculum Expectations/Progression Map for Science

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| | draw and label the basic parts of the human body and say which part of the body is associated with each sense. | | | | | |
| Plants  | **Pupils should be taught to:**<br>• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees<br>• identify and describe the basic structure of a variety of common flowering plants, including trees. | **Pupils should be taught to:**<br>• observe and describe how seeds and bulbs grow into mature plants<br>• find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. | **Pupils should be taught to:**<br>• identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers<br>• 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<br>• investigate the way in which water is | | | |

# National Curriculum Expectations/Progression Map for Science

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| | | | transported within plants<br>• explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. | | | |
| Living Things and Their Habitats<br><br> | | **Pupils should be taught to:**<br>• explore and compare the differences between things that are living, dead, and things that have never been alive<br>• identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals | | **Pupils should be taught to:**<br>• recognise that living things can be grouped in a variety of ways<br>• explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment<br>• recognise that environments can change and that this can | **Pupils should be taught to:**<br>• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird<br>• describe the life process of reproduction in some plants and animals. | **Pupils should be taught to:**<br>• 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<br>• give reasons for classifying plants and animals based on |

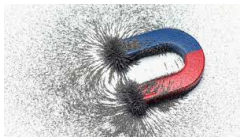
# National Curriculum Expectations/Progression Map for Science

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| | | and plants, and how they depend on each other.<br>• identify and name a variety of plants and animals in their habitats, including microhabitats<br>• describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. | | sometimes pose dangers to living things. | | specific characteristics. |
| Evolution and Inheritance<br> | | | | | | **Pupils should be taught to:**<br>• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth |

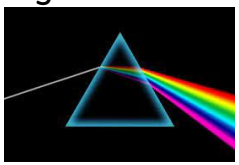
# National Curriculum Expectations/Progression Map for Science

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| | | | | | | millions of years ago<br>• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents<br>• identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. |
| Seasonal Changes<br> | **Pupils should be taught to:**<br>• observe changes across the 4 seasons<br>• observe and describe weather associated with the seasons and how day length varies. | | | | | |

# National Curriculum Expectations/Progression Map for Science

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| Forces<br><br> | | | **Pupils should be taught to:**<br>• compare how things move on different surfaces<br>• notice that some forces need contact between 2 objects, but magnetic forces can act at a distance<br>• observe how magnets attract or repel each other and attract some materials and not others<br>• 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<br>• describe magnets as having 2 poles | | **Pupils should be taught to:**<br>• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object<br>• identify the effects of air resistance, water resistance and friction, that act between moving surfaces<br>• recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. | |

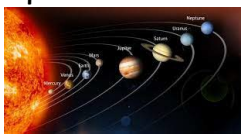
# National Curriculum Expectations/Progression Map for Science

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| | | | • predict whether 2 magnets will attract or repel each other, depending on which poles are facing. | | | |
| Light  | | | **Pupils should be taught to:**<br>• recognise that they need light in order to see things and that dark is the absence of light<br>• notice that light is reflected from surfaces<br>• recognise that light from the sun can be dangerous and that there are ways to protect their eyes<br>• recognise that shadows are formed when the light from a light source is blocked by an opaque object | | | **Pupils should be taught to:**<br>• recognise that light appears to travel in straight lines<br>• 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<br>• 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<br>• use the idea that light travels in straight lines to |

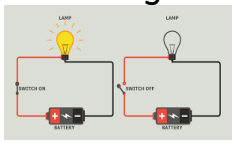
# National Curriculum Expectations/Progression Map for Science

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| | | | • find patterns in the way that the size of shadows change. | | | explain why shadows have the same shape as the objects that cast them. |
| Sound  | | | | **Pupils should be taught to:**<br>• identify how sounds are made, associating some of them with something vibrating<br>• recognise that vibrations from sounds travel through a medium to the ear<br>• find patterns between the pitch of a sound and features of the object that produced it<br>• find patterns between the volume of a sound and the strength of the vibrations that produced it | | |

# National Curriculum Expectations/Progression Map for Science

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| | | | | • recognise that sounds get fainter as the distance from the sound source increases. | | |
| Earth and Space  | | | | | **Pupils should be taught to:**<br>• describe the movement of the Earth and other planets relative to the sun in the solar system<br>• describe the movement of the moon relative to the Earth<br>• describe the sun, Earth and moon as approximately spherical bodies<br>• use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. | |

# National Curriculum Expectations/Progression Map for Science

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| Electricity<br><br> | | | | **Pupils should be taught to:**<br>• identify common appliances that run on electricity<br>• construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers<br>• 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<br>• recognise that a switch opens and closes a circuit and associate this with whether or not a lamp | | **Pupils should be taught to:**<br>• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit<br>• 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<br>• use recognised symbols when representing a simple circuit in a diagram. |

# National Curriculum Expectations/Progression Map for Science

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| | | | | lights in a simple series circuit<br>• recognise some common conductors and insulators, and associate metals with being good conductors. | | |
| Materials<br><br> | **Pupils should be taught to:**<br>• distinguish between an object and the material from which it is made<br>• identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock<br>• describe the simple physical properties of a variety of everyday materials<br>• compare and group together a | **Pupils should be taught to:**<br>• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses<br>• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | **Pupils should be taught to:**<br>• compare and group together different kinds of rocks on the basis of their appearance and simple physical properties<br>• describe in simple terms how fossils are formed when things that have lived are trapped within rock<br>• recognise that soils are made from rocks and organic matter. | **Pupils should be taught to:**<br>• compare and group materials together, according to whether they are solids, liquids or gases<br>• observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)<br>• identify the part played by evaporation and condensation | **Pupils should be taught to:**<br>• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets<br>• know that some materials will dissolve in liquid to form a solution, and describe how to | |

# National Curriculum Expectations/Progression Map for Science

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| | variety of everyday materials on the basis of their simple physical properties. | | | in the water cycle and associate the rate of evaporation with temperature. | recover a substance from a solution<br>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating<br>• give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic<br>• demonstrate that dissolving, mixing and changes of state are reversible changes<br>• explain that some changes result in the formation of new | |

# National Curriculum Expectations/Progression Map for Science

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| | | | | | materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. | |
| Scientists and Inventors   | **Pupils should be taught to:**<br>• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees<br>• describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)<br>• identify, name, draw and label the basic parts of | **Pupils should be taught to:**<br>• describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food<br>• find out and describe how plants need water, light and a suitable temperature to grow and stay healthy | **Pupils should be taught to:**<br>• 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<br>• identify that humans and some other animals have skeletons and muscles for support, protection and movement<br>• compare and group together | **Pupils should be taught to:**<br>• recognise that environments can change and that this can sometimes pose dangers to living things<br>• identify the different types of teeth in humans and their simple functions<br>• compare and group materials together, according to whether they are solids, liquids or gases | **Pupils should be taught to:**<br>• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird<br>• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and | **Pupils should be taught to:**<br>• give reasons for classifying plants and animals based on specific characteristics<br>• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood<br>• recognise the impact of diet, exercise, drugs and lifestyle on |

# National Curriculum Expectations/Progression Map for Science

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| | the human body and say which part of the body is associated with each sense<br>• describe the simple physical properties of a variety of everyday materials<br>• compare and group together a variety of everyday materials on the basis of their simple physical properties<br>• observe and describe weather associated with the seasons and how day length varies. | • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene<br>• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses<br>• find out about people who have developed new materials (non-statutory). | different kinds of rocks on the basis of their appearance and simple physical properties<br>• describe in simple terms how fossils are formed when things that have lived are trapped within rock<br>• notice that light is reflected from surfaces<br>• observe how magnets attract or repel each other and attract some materials and not others. | • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)<br>• recognise that vibrations from sounds travel through a medium to the ear<br>• identify common appliances that run on electricity<br>• construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers<br>• recognise that a switch opens and closes a circuit and | response to magnets<br>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating<br>• describe the movement of the Earth, and other planets, relative to the Sun in the solar system<br>• find out about the work of naturalists and animal behaviourists (non-statutory)<br>• describe how scientific ideas have changed over time (non-statutory). | the way their bodies function<br>• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago<br>• use recognised symbols when representing a simple circuit in a diagram. |

# National Curriculum Expectations/Progression Map for Science

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| | | | | associate this with whether or not a lamp lights in a simple series circuit. | | |