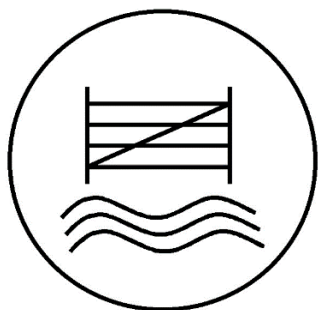




# Ambergate Primary School

## Achieve, Believe, Create

### Science – Progression statements

|          |                |
|----------|----------------|
| Written: | September 2025 |
| Review:  | June 2026      |

|                                  | Class 1                                                                                                                                                                                                                                                                                                    | Class 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Class 3                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                         |
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|                                  | Year 1                                                                                                                                                                                                                                                                                                     | Year 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Year 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Year 4                                                                                                                                                                                                                                                                                                                                                                                                              | Year 5                                                                                                                                                                                                                                                             | Year 6                                                                                                                                                                                                                                                                                                                                                                                  |
| Plants                           | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>• identify and describe the basic structure of a variety of common flowering plants, including trees</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• observe and describe how seeds and bulbs grow into mature plants</li> <li>• find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> <li>• 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</li> <li>• investigate the way in which water is transported within plants</li> <li>• explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                         |
| Living Things and their Habitats |                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• explore and compare the difference between things that are living, dead, and things that have never been alive</li> <li>• identify that most living things live in habitats to which they are suited and describe how different habitats provide the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>• identify and name a variety of plants and animals in their habitats, including micro-habitats</li> <li>• 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</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• recognise that living things can be grouped in a variety of ways</li> <li>• explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>• recognise that environments can change and that this can sometimes pose dangers to living things</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>• describe the life process of reproduction in some plants and animals</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• give reasons for classifying plants and animals based on specific characteristics</li> </ul> |

|                           | Class 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Class 2                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                     | Class 3                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                           | Year 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Year 2                                                                                                                                                                                                                                                                                                                                                                                                                  | Year 3                                                                                                                                                                                                                                                                                                                                              | Year 4                                                                                                                                                                                                                                                                                                                                                                 | Year 5                                                                                                                                   | Year 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Animals Including Humans  | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>• identify and name a variety of common animals that are carnivores, herbivores and omnivores</li> <li>• describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</li> <li>• identify, name, draw and label the basic parts of the human body and say which part</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• notice that animals, including humans, have offspring which grow into adults</li> <li>• find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>• describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• identify that humans and some other animals have skeletons and muscles for</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• describe the simple functions of the basic parts of the digestive system in humans</li> <li>• identify the different types of teeth in humans and their simple functions</li> <li>• construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• describe the changes as humans develop to old age</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li> <li>• recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> <li>• describe the ways in which nutrients and water are transported within animals, including humans</li> </ul>                                                                                                   |
| Evolution and Inheritance |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                          | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</li> <li>• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>• identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li> </ul> |

|                                | Class 1                                                                                                                                                                                                                      | Class 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Class 3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                                | Year 1                                                                                                                                                                                                                       | Year 2  | Year 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Year 4  | Year 5                                                                                                                                                                                                                                                                                                                                                                                                                                          | Year 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Seasonal Changes/Earth & Space | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• observe changes across the four seasons</li> <li>• observe and describe weather associated with the seasons and how day length varies</li> </ul> |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• describe the movement of the Earth, and other planets, relative to the Sun</li> <li>• describe the movement of the Moon relative to the Earth</li> <li>• describe the Sun, Earth and Moon as approximately spherical bodies</li> <li>• use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Light                          |                                                                                                                                                                                                                              |         | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• recognise that they need light in order to see things and that the dark is the absence of light</li> <li>• notice that light is reflected from surfaces</li> <li>• recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>• recognise that shadows are formed when the light from a light source is blocked by a solid object</li> <li>• find patterns in the way that the size of shadows changes</li> </ul> |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• recognise that light appears to travel in straight lines</li> <li>• 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</li> <li>• 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</li> <li>• use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</li> </ul> |

|                                            | Class 1 | Class 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Class 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |
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|                                            | Year 1  | Year 2  | Year 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Year 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Year 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Year 6 |
| Forces (Magnets/Gravity, friction, levers) |         |         | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• compare how things move on different surfaces</li> <li>• notice that some forces need contact between two objects, but magnetic forces can act at a distance</li> <li>• observe how magnets attract or repel each other and attract some materials and not others</li> <li>• compare and group together a variety of everyday materials on the basis on whether they are attracted to a magnet, and identify some magnetic materials</li> <li>• describe magnets as having two poles</li> <li>• predict whether two magnets will attract or repel each other, depending on which poles are facing</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</li> <li>• identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> <li>• recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect</li> </ul> |        |
| Sound                                      |         |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify how sounds are made, associating some of them with something vibrating</li> <li>• recognise that vibrations from sounds travel through a medium to the ear</li> <li>• find patterns between the pitch of a sound and features of the object that produced it</li> <li>• find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>• recognise that sounds get fainter as the distance from the sound source increases</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |

|                                                                        | Class 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Class 2                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                               | Class 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                                                                        | Year 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Year 2                                                                                                                                                                                                                                                                                                                                                                                                                                   | Year 3                                                                                                                                                                                                                                                                                                                                                                                                        | Year 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Year 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Year 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Electricity                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify common appliances that run on electricity</li> <li>• construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>• identify whether or not a lamp will light in a simple series circuit – is the lamp is part of a complete loop with a battery</li> <li>• recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>• recognise some common conductors and insulators, and associate metals with being good conductors</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</li> <li>• 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</li> <li>• use recognised symbols when representing a simple circuit in a diagram</li> </ul> |
| Materials (materials, states of matter, rocks, properties and changes) | <p>Everyday Materials</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• distinguish between an object and the material from which it is made</li> <li>• identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>• describe the simple physical properties of a variety of everyday materials</li> <li>• compare and group together a variety of everyday materials on the basis of their simple physical properties</li> </ul> | <p>Uses of Everyday Materials</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul> | <p>Rocks</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>• describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>• recognise that soils are made from rocks and organic matter</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• compare and group materials together, according to whether they are solids, liquids or gases</li> <li>• 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)</li> <li>• identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul>                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• compare/group materials based on properties, inc hardness, solubility, transparency, conductivity (electrical and thermal), and magnetism</li> <li>• some materials dissolve, and know how to recover substances from solution</li> <li>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including filtering, sieving and evaporating</li> <li>• give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, inc metals, wood and plastic</li> <li>• demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>• explain that some changes result in the formation of new materials (not usually reversible), inc changes assoc with burning and the action of acid on bicarbonate of soda</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Science topics by cycle and term

Suggestions for working scientifically within each topic are given in the tables below this one

|                                                 | Class 1             | Class 2           |         | Class 3 |         |         |
|-------------------------------------------------|---------------------|-------------------|---------|---------|---------|---------|
|                                                 | Y 1                 | Y 2               | Y 3     | Y 4     | Y5      | Y 6     |
| Working scientifically                          | T H R O U G H O U T | E A C H T O P I C |         |         |         |         |
| Animals, including humans                       | A - AUT             | B - SPR           | B - SPR | C - SPR | C - SPR | C - SPR |
|                                                 | B - SUM             |                   |         |         |         |         |
| Living things and their habitats                |                     | B - SUM           |         | C - SUM | C - SUM | C - SUM |
| Plants                                          | A - SPR             | A - SPR           | A - SPR |         |         |         |
|                                                 | B - SPR             |                   |         |         |         |         |
| Evolution and inheritance                       |                     |                   |         |         |         | B - SPR |
| States of matter/Materials and their properties | A - SUM             | A - AUT           | A - AUT | B - SUM | A - AUT |         |
| Forces                                          |                     |                   | A - SPR |         | C - AUT |         |
| Sound                                           |                     |                   |         | A - SPR |         |         |
| Light                                           |                     |                   | A - SUM |         |         | A - SUM |
| Electricity                                     |                     |                   |         | B - AUT |         | B - AUT |
| Earth and space                                 |                     |                   |         |         | A - SUM |         |
| Seasonal changes                                | B - AUT             |                   |         |         |         |         |
| Rocks and soils                                 |                     |                   | B - AUT |         |         |         |
| Number of different topics                      | 4                   | 4                 | 5       | 5       | 5       | 5       |

## Suggested statutory and non - statutory units

Some of the units have been split to allow deeper investigation. Additional units, in order to fill any gaps in science provision over the course of a year, have also been included.

|        | Topic                                                            | Key Content                                                                                                                                                                                                                                                                                                  | Suggestions for working scientifically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year 1 | <b>Animals, including humans – invertebrates and vertebrates</b> | <ul style="list-style-type: none"> <li>identify and name common animals</li> <li>understand the term carnivore and herbivore</li> <li>describe and compare the structure of a variety of common animals</li> </ul>                                                                                           | <ul style="list-style-type: none"> <li>using observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them</li> <li>group animals according to what they eat</li> <li>sort living things into plants and animals</li> <li>sort animals into birds, fish, amphibians, reptiles, mammals, minibeasts</li> <li>match the food to the animal</li> </ul>                                                                                                                                                                                                                                          |
|        | <b>Animals, including humans – humans</b>                        | <ul style="list-style-type: none"> <li>identify, name, draw and label the basic parts of the human body</li> <li>explore the senses and which organs are involved</li> </ul>                                                                                                                                 | <ul style="list-style-type: none"> <li>using their senses to compare different textures, sounds and smells</li> <li>can we taste when we can't smell</li> <li>go on a sound walk</li> <li>make a sensory trail</li> <li>design a sensory garden</li> <li>draw around a child and name the body parts</li> </ul>                                                                                                                                                                                                                                                                                                                                                          |
|        | <b>Everyday materials</b>                                        | <ul style="list-style-type: none"> <li>name objects and recognize that they are made from different materials</li> <li>identify and name a variety of everyday materials</li> <li>describe the properties of everyday materials</li> <li>compare and group materials based on physical properties</li> </ul> | <ul style="list-style-type: none"> <li>performing simple tests to explore questions, for example: 'what is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast's leotard?'</li> <li>which bag is the strongest</li> <li>which material is most waterproof</li> <li>grade materials from shiniest to dulllest, heaviest to lightest, softest to hardest</li> <li>compile a list of words to describe materials</li> <li>play three of a kind</li> <li>play odd one out</li> <li>investigate hardness – which material will scratch</li> <li>investigate the best way to keep an egg safe</li> </ul>      |
|        | <b>Plants</b>                                                    | <ul style="list-style-type: none"> <li>identify and name common plants</li> <li>identify and describe basic structure of flowering plants – roots, stem, leaves etc</li> </ul>                                                                                                                               | <ul style="list-style-type: none"> <li>observing closely, using magnifying glasses, and comparing and contrasting familiar plants</li> <li>describing how to identify and group</li> <li>drawing diagrams showing the parts of different plants including trees</li> <li>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</li> <li>grow carrot tops</li> <li>grow mustard seeds</li> <li>cut open frits – observe, compare and record findings</li> <li>grow bulbs in water to observe roots</li> <li>make leaf rubbings</li> </ul> |
|        | <b>Seasonal changes – autumn and winter</b>                      | <ul style="list-style-type: none"> <li>observe changes across the seasons</li> <li>observe and describe weather</li> <li>investigate the effects of seasonality on plants and animals</li> <li>how does the temperature change</li> </ul>                                                                    | <ul style="list-style-type: none"> <li>make tables and charts about the weather and making displays of what happens in the world, including day length, as the seasons change</li> <li>keep a diary of weather and temperature</li> <li>take the temperature at different points in the day</li> <li>paint a picture of a tree</li> <li>match clothing to the season and explain why it is suitable</li> <li>film a weather report</li> </ul>                                                                                                                                                                                                                            |
|        | <b>Seasonal changes – spring and summer</b>                      | <ul style="list-style-type: none"> <li>observe changes across the seasons</li> <li>observe and describe weather</li> <li>investigate the effects of seasonality on plants and animals</li> <li>how does the temperature change</li> </ul>                                                                    | <ul style="list-style-type: none"> <li>making tables and charts about the weather and making displays of what happens in the world around them, including day length, as the seasons change</li> <li>keep a diary of weather and temperature</li> <li>take the temperature at different points in the day</li> <li>paint a picture of a tree</li> <li>match clothing to the season and explain why it is suitable</li> <li>film a weather report</li> </ul>                                                                                                                                                                                                              |

|        | Topic                                      | Key Content                                                                                                                                                                                                                                                                                                                                                                             | Suggestions for working scientifically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year 2 | Animals, including humans – life cycles    | <ul style="list-style-type: none"> <li>animals, including humans have offspring which grow into adults</li> </ul>                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>do people grow at the same rate – take measurements from different year groups</li> <li>observing, through video or first-hand observation and measurement, how different animals, including humans, grow</li> <li>compare photos of children as babies then adults. look at pictures of own family/teachers</li> <li>match offspring to parent animal</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|        | Animals, including humans – healthy living | <ul style="list-style-type: none"> <li>investigate the basic needs of animals for survival (water, food, air)</li> <li>understand the importance of exercise for humans</li> <li>understand the need for a balanced diet in humans</li> <li>understand the need for hygiene in humans</li> </ul>                                                                                        | <ul style="list-style-type: none"> <li>what things animals need for survival and what humans need to stay healthy</li> <li>how clean are your hands? uv light investigation – link to cross contamination</li> <li>put food into groups – meat, fish, dairy etc</li> <li>put food into groups – healthy/unhealthy. produce a collage using pictures from magazines</li> <li>what happens to our bodies when we exercise – investigate heart rate/breathing</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|        | Living things and their habitats           | <ul style="list-style-type: none"> <li>compare the differences between things that are living, dead and things that have never been alive</li> <li>identify different habitats</li> <li>explore adaptations to a particular habitat</li> <li>identify and name a variety of plants and animals in their habitats including microhabitats</li> <li>explore simple food chains</li> </ul> | <ul style="list-style-type: none"> <li>sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts. describe how they decided where to place things, exploring questions for example: 'is a flame alive? is a deciduous tree dead in winter?' and talk about ways of answering their questions.</li> <li>construct a simple food chain that includes humans (e.g. grass, cow, human)</li> <li>describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there</li> <li>do more mini-beasts live in trees or on the ground</li> <li>which tree attracts most birds</li> <li>which food attracts most birds</li> <li>log birds visiting the playground</li> <li>play animal odd one out</li> <li>investigate why animals and plants are different</li> </ul> |
|        | Uses of everyday materials                 | <ul style="list-style-type: none"> <li>identify and compare a range of everyday materials and assess their suitability for particular uses</li> </ul>                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>compare the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs) observe closely, identifying and classifying the uses of different materials, and recording their observations</li> <li>which material is best for mopping up spills</li> <li>which materials return to shape after squashing. what does this tell us about the material?</li> <li>what happens to materials when they are heated or cooled</li> <li>create a material trail</li> <li>play material bingo</li> <li>group similar objects according to properties</li> </ul>                                                                                                                                                                                                                                                                                 |
|        | Introducing forces                         | <ul style="list-style-type: none"> <li>investigate pushing and pulling</li> <li>investigate how squashing, bending, twisting and stretching alters some materials</li> </ul>                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>what happens when we push/pull – how does it affect the pusher/pushed</li> <li>can we change the direction of forces – blow football</li> <li>which is the scratchiest material</li> <li>what surface does a car roll down quickest - friction</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|        | Plants                                     | <ul style="list-style-type: none"> <li>observe and describe how seeds grow into mature plants</li> <li>understand that plants need water, light and warmth to grow and be healthy</li> </ul>                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb</li> <li>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</li> <li>do shoots always grow up and roots always grow down</li> <li>do plants need light in order to grow</li> <li>will seeds grow in anything other than soil</li> <li>keep a growing diary</li> <li>grow a bean plant and write a how-to guide</li> <li>draw different plants</li> </ul>                                                                                                                                                                                                                                                                                                                                                             |

|        | Topic                                             | Key Content                                                                                                                                                                                                                                                                                                                                                                            | Suggestions for working scientifically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| Year 3 | Animals, including humans – nutrition             | <ul style="list-style-type: none"> <li>investigate and contrast the diet of different animals</li> <li>investigate food groups and their role in nutrition</li> </ul>                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat – carnivore, herbivore, omnivore</li> <li>research different food groups and how they benefit us</li> <li>how do different food groups keep us healthy</li> <li>cooking using healthy recipes</li> <li>food group poster/collage</li> <li>sort/group food packets</li> <li>design meals based on what we have found out</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|        | Animals, including humans – muscles and skeletons | <ul style="list-style-type: none"> <li>explore endoskeletons and exoskeletons</li> <li>understand the function of muscles</li> </ul>                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>do people with longer legs jump higher</li> <li>do people with longer arms throw further</li> <li>how many bones are in the human body</li> <li>find the longest bone and the shortest bone</li> <li>do people with large hands have large feet</li> <li>investigate muscle strength/fatigue – squeeze test with bathroom scales</li> <li>group animals according to skeleton type - identifying and grouping animals with and without skeletons and observing and comparing their movement</li> <li>investigate different joints and where they are in the body</li> <li>name basic human muscles</li> <li>name basic human bones</li> <li>measure femur length in different age groups and draw line graph</li> </ul>                                                                                                                                                                                                                                                                   |
|        | Rocks                                             | <ul style="list-style-type: none"> <li>compare and group different kinds of rocks</li> <li>describe how rocks are formed</li> <li>investigate fossilisation</li> <li>recognize that soil is made from rock and that there are different types of soil</li> </ul>                                                                                                                       | <ul style="list-style-type: none"> <li>observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time</li> <li>using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them</li> <li>research and discuss the different kinds of living things whose fossils are found in sedimentary rock</li> <li>explore how fossils are formed</li> <li>explore different soils and identify similarities and differences between them - raise and answer questions about the way soils are formed</li> <li>investigate what happens when rocks are rubbed together or what changes occur when they are in water</li> <li>which is the hardest rock</li> <li>which soil is best for seed germination</li> <li>put different rocks in water to see how the water level changes</li> <li>investigate what happens to soils when they are wet</li> </ul>               |
|        | Plants                                            | <ul style="list-style-type: none"> <li>identify and understand the function of different parts of flowering plants</li> <li>understand the requirements for plant growth (air, light, water, warmth) across a range of species</li> <li>investigate how water is transported in plants</li> <li>investigate the role of flowers in pollination</li> </ul>                              | <ul style="list-style-type: none"> <li>comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser</li> <li>discovering how seeds are formed by observing the different stages of plant life cycles over a period of time</li> <li>looking for patterns in the structure of fruits that relate to how the seeds are dispersed</li> <li>observe how water is transported in plants</li> <li>grow cress to illustrate phototropism</li> <li>grow draw a poster to show what plants need to grow</li> <li>split the stem of a flower and put each half in different food colouring</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |
|        | Forces and Magnets                                | <ul style="list-style-type: none"> <li>compare how things move on different surfaces</li> <li>magnets can attract or repel each other and attract some materials and not others</li> <li>compare and group everyday materials that are magnetic or not</li> <li>understand that magnets have poles</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>comparing how different things move and grouping them – friction investigation</li> <li>raising questions and carrying out tests to find out how far things move on different surfaces and gathering and recording data to find answers their questions</li> <li>exploring the strengths of different magnets and finding a fair way to compare them - which magnet is strongest, are bigger magnets stronger</li> <li>sorting materials into those that are magnetic and those that are not</li> <li>looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another</li> <li>identifying how these properties make magnets useful in everyday items suggesting creative uses for different magnets</li> <li>how well does magnetism pass through different materials</li> <li>are all metals magnetic</li> <li>make a fishing game</li> <li>make a magnet maze</li> </ul> |
|        | Light                                             | <ul style="list-style-type: none"> <li>understand that darkness is the absence of light and that light is needed to see things</li> <li>understand that light waves travel in a straight line</li> <li>understand that light from the sun can be dangerous</li> <li>recognize that shadows are formed when light is blocked</li> <li>investigate how shadows change in size</li> </ul> | <ul style="list-style-type: none"> <li>looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes</li> <li>how does distance from light source affect shadow size</li> <li>how does the colour of a filter affect blue/red/green/red/yellow light</li> <li>how do overlapping shadows affect the darkness of the shadow</li> <li>explore how shadows change throughout the day</li> <li>discuss where the sun appears and where it goes through the day, explain the movement of the sun in relation to the solar system</li> <li>where do colours go at night</li> <li>sort and group materials into transparent, translucent and opaque</li> <li>make a shadow clock and test its accuracy</li> <li>perform a shadow play</li> </ul>                                                                                                                                                                                                          |

|        | Topic                                   | Key Content                                                                                                                                                                                                                                                                                                                                                                                                                     | Suggestions for working scientifically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Year 4 | <b>Animals, including humans</b>        | <ul style="list-style-type: none"> <li>describe the simple functions of the human digestive system</li> <li>identify the different types of teeth in humans and understand their functions</li> <li>understand how to look after teeth</li> <li>compare the teeth of carnivores and herbivores and relate to their diet</li> </ul>                                                                                              | <ul style="list-style-type: none"> <li>comparing the teeth of carnivores and herbivores, and suggesting reasons for differences</li> <li>sort animals into carnivores, herbivores and omnivores</li> <li>finding out what damages teeth and how to look after them</li> <li>matching tooth type to diet in a range of animals</li> <li>naming human teeth and investigating their function</li> <li>naming the main parts of the human digestive system and finding out their function</li> <li>make a model of the digestive system</li> </ul>                                                                                                                                                                                                                                                     |
|        | <b>Living things and their habitats</b> | <ul style="list-style-type: none"> <li>recognize that living things can be grouped in a variety of ways</li> <li>explore and use classification keys to group living things in the local and wider environment</li> <li>recognize that environments can change and that this can pose dangers to living things</li> </ul>                                                                                                       | <ul style="list-style-type: none"> <li>using and making simple guides or keys to explore and identify local plants and animals;</li> <li>making a guide to local living things</li> <li>where do mini-beasts like to live</li> <li>what is the most common number of legs in mini-beasts</li> <li>which is the most common bird on the playground/in the woods</li> <li>use keys and reference books to identify mini-beasts and plants</li> <li>play organism odd one out</li> </ul>                                                                                                                                                                                                                                                                                                               |
|        | <b>Food chains and food webs</b>        | <ul style="list-style-type: none"> <li>a food chain is a simple way to show the direction in which energy moves from the producer to the various consumers to the top consumer.</li> <li>a food web shows the direction in which energy travels when animals and producers (plants) are eaten by more than one thing.</li> <li>a food web shows multiple food chains where there are multiple feeding relationships.</li> </ul> | <ul style="list-style-type: none"> <li>compare two habitats – which has most animals/plants – try to explain why</li> <li>draw simple food chain</li> <li>play food chain snap</li> <li>investigate what happens if there is an imbalance in a food chain</li> <li>make a food web for living things in the woods</li> <li>make a mobile to illustrate a food web</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        |
|        | <b>States of matter</b>                 | <ul style="list-style-type: none"> <li>compare and group materials into solids, liquids and gases</li> <li>observe how materials change when they are heated or cooled</li> <li>understand evaporation and condensation</li> <li>investigate the water cycle</li> </ul>                                                                                                                                                         | <ul style="list-style-type: none"> <li>grouping and classifying a variety of different materials</li> <li>exploring the effect of temperature on substances such as chocolate, butter, cream</li> <li>research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into a liquid</li> <li>observe and record evaporation over a period of time</li> <li>how many powders and liquids can you name</li> <li>what is the difference between a powder and a liquid – prove it</li> <li>how long does it take ice to melt in different places around school</li> </ul>                                                                                                                                                                               |
|        | <b>Sound</b>                            | <ul style="list-style-type: none"> <li>identify how sounds are made</li> <li>recognize how vibrations from sounds travel to the ear</li> <li>investigate pitch</li> <li>investigate volume and how this relates to the vibrations that produced the sound</li> <li>sounds get fainter as the distance from the source increases</li> </ul>                                                                                      | <ul style="list-style-type: none"> <li>find patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses</li> <li>make earmuffs from a variety of different materials to investigate which provides the best insulation against sound</li> <li>make and play their own instruments by using what they have found out about pitch and volume</li> <li>make tin can telephones</li> <li>send Morse code messages through solid materials</li> <li>investigate how sound travels through water</li> <li>measure how fast sound travels (sports field, stake and hammer)</li> <li>investigate the structure of the human ear – compare to other animals eg bat, dog</li> <li>who hears last game with buzzer</li> </ul> |
|        | <b>Electricity</b>                      | <ul style="list-style-type: none"> <li>identify appliances that run on electricity</li> <li>construct series circuits and identify cells, wires, bulbs, switches and buzzers</li> <li>recognize the role of switches in circuits</li> <li>recognize common conductors and insulators</li> </ul>                                                                                                                                 | <ul style="list-style-type: none"> <li>list electrical appliances – relate to periods in history. Investigate alternative power sources</li> <li>what is electricity</li> <li>observe patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity</li> <li>investigate conductors, semi-conductors and insulators</li> <li>construct burglar alarms using a variety of switches</li> <li>investigate dynamos – can human power light the school</li> <li>investigate renewable electrical energy for the school</li> </ul>                                                                                                                                                                                                             |

|        | Topic                                      | Key Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Suggestions for working scientifically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Year 5 | <b>Animals, including humans</b>           | <ul style="list-style-type: none"> <li>describe the changes as humans develop to old age</li> <li>learn about the changes in puberty</li> <li>investigate the gestation periods of different animals and compare to humans</li> </ul>                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>research the gestation periods of other animals and comparing them with humans</li> <li>find out and recording the length and mass of a baby as it grows</li> <li>make a life road collage with the class life story on it</li> <li>talk about how the human body changes as it ages from child to adult</li> <li>what happens to the human body once it reaches adulthood</li> <li>measure femur length in different age groups and draw line graph</li> <li>investigate head to body ratio in different year groups – produce a line graph</li> <li>draw line graph to show height at different ages. Investigate rate of growth. Secondary school link.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                    |
|        | <b>Living things and their habitats</b>    | <ul style="list-style-type: none"> <li>describe the differences in the life cycles of mammals, amphibians, insects and birds</li> <li>understand the terms asexual and sexual reproduction and relate this to plants and animals</li> <li>describe the process of reproduction in some plants and animals</li> </ul>                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>observe and compare the life cycles of plants and animals in the local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times)</li> <li>grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. Discuss what type of reproduction each is</li> <li>observe changes in an animal over a period of time</li> <li>compare how different animals reproduce and grow – amphibians, marsupials etc</li> <li>group animals according to how they reproduce</li> <li>investigate the advantages/disadvantages of sexual and asexual reproduction</li> <li>investigate the life of naturalists and behaviourists (Attenborough, Goodall)</li> </ul>                                                                                                                                                                                                                                                  |
|        | <b>Properties and changes of materials</b> | <ul style="list-style-type: none"> <li>compare and group everyday materials based on their properties</li> <li>understand that some materials will dissolve to form a solution and describe how to recover a substance from solution</li> <li>understand that filtering, sieving and evaporating can separate mixtures</li> <li>give reasons for the particular use of everyday materials</li> <li>demonstrate that dissolving, mixing and changes of state can be reversible</li> <li>recognize that some changes result in the formation of new materials and that this change might not be reversible</li> </ul> | <ul style="list-style-type: none"> <li>carry out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?'</li> <li>compare materials in order to make a switch in a circuit</li> <li>observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes</li> <li>research and discuss how chemical changes have an impact on our lives, for example, cooking discuss the creative use of new materials such as polymers, super-sticky and super-thin materials</li> <li>how is the boiling time of water affected by adding salt?</li> <li>which liquid dissolves antacid tablets quickest</li> <li>do all liquids dissolve at the same rate</li> <li>do all frozen materials melt at the same rate?</li> <li>investigate how to separate different mixtures – wet, dry</li> <li>can salt be removed from solution</li> <li>group changes into reversible and non-reversible</li> </ul> |
|        | <b>Earth and space</b>                     | <ul style="list-style-type: none"> <li>describe the movement of the earth and other planets relative to the sun and the solar system</li> <li>describe the movement of the moon relative to the earth</li> <li>describe the sun, earth and moon as approximately spherical</li> <li>understand that the earth's rotation explains night and day and the apparent movement of the sun across the sky</li> </ul>                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>compare the time of day at different places on the Earth through internet links and direct communication</li> <li>create simple models of the solar system</li> <li>investigate different planets and produce a data base</li> <li>construct shadow clocks and sundials, calibrated to show midday and the start/end of the school day</li> <li>find out why some people think that structures such as Stonehenge might have been used as astronomical clocks</li> <li>make a human model of the earth, sun and moon</li> <li>make a mobile to illustrate the earth's journey around the sun</li> <li>produce class artwork to show how the earth's position in space creates seasons</li> </ul>                                                                                                                                                                                                                                                                                                                                         |
|        | <b>Forces</b>                              | <ul style="list-style-type: none"> <li>understand the force of gravity</li> <li>understand the effects of air resistance, water resistance and friction</li> <li>understand that levers, pulleys and gears allow a smaller force to have a greater effect</li> </ul>                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>exploring falling paper cones or cup-cake cases</li> <li>designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective</li> <li>explore resistance in water by making and testing boats of different shapes</li> <li>time how long objects of differing shapes but similar mass take to sink</li> <li>design and make products that use levers, pulleys, gears and/or springs and explore their effects</li> <li>use pulleys to show how mechanical advantage can be used to lift heavy objects – pulleys, ropes, woods. Can one child lift three children?</li> <li>investigate how the length of a lever affects its lifting effect – can one child lift a weight greater than themselves?</li> <li>Design and make cardboard moving pictures to demonstrate using levers to increase/reduce movement</li> </ul>                                                                                                                                                          |

|        | Topic                                                            | Key Content                                                                                                                                                                                                                                                                                                                                                                                                   | Suggestions for working scientifically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Year 6 | <b>Animals, including humans - circulatory system, nutrition</b> | <ul style="list-style-type: none"> <li>identify and name the main parts of the human circulatory system. describe their functions</li> <li>describe the ways in which nutrients and water are transported within animals including humans</li> </ul>                                                                                                                                                          | <ul style="list-style-type: none"> <li>exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health</li> <li>how does your heart rate change after different activities?</li> <li>Draw a line graph to show how heart rate increases as exercise intensity increases</li> <li>Measure lung capacity</li> <li>Compare lung capacity in children of different ages</li> <li>Investigate ways in which the circulatory system can be harmed by lifestyle choices</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|        | <b>Animals, including humans – healthy living</b>                | <ul style="list-style-type: none"> <li>recognize the impact of diet, exercise, drugs and lifestyle on the way the human body functions</li> </ul>                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>link to PSHE and drug awareness</li> <li>investigate the effects of exercise on physical health</li> <li>investigate how exercise and diet can have a positive influence on physical and mental health over long periods</li> <li>investigate diabetes</li> <li>link lifestyle to mental health – investigate the positive chemical changes in the brain resulting from exercise</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|        | <b>Living things and their habitats</b>                          | <ul style="list-style-type: none"> <li>describe how living things, including micro-organisms, plants and animals, are classified</li> <li>give reasons for classifying plants and animals based on specific characteristics</li> </ul>                                                                                                                                                                        | <ul style="list-style-type: none"> <li>using classification systems and keys to identify some animals and plants in the immediate environment</li> <li>they could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system</li> <li>can you group organisms from the local environment?</li> <li>Investigate why the original methods of classification in plants and animals would be a problem with all the organisms which we now know about</li> <li>Investigate the difficulties of classifying animals in each group</li> <li>Create your own animal to fit into a specific part of the classification system</li> <li>Investigate Linnaeus and contrast how he classified animals to how they were classified before</li> </ul>                                                                                                                                                                                                                                                            |
|        | <b>Evolution and inheritance</b>                                 | <ul style="list-style-type: none"> <li>recognise that living things have changed over time</li> <li>understand that fossils provide information about extinct living things</li> <li>recognize that living things produce offspring of the same kind but that the offspring are normally different to their parents</li> <li>identify adaptation to environment and how this can lead to evolution</li> </ul> | <ul style="list-style-type: none"> <li>observing and raising questions about local animals and how they are adapted to their environment;</li> <li>comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels.</li> <li>they might analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.</li> <li>Explore the advantages and disadvantages of adaptations, eg long fur/short fur</li> <li>How are local animals/insects different from those in other locations/countries?</li> <li>Odd one out – three pictures of minibeasts/birds/plants</li> <li>Create a tree of life to show the link between species</li> <li>Explore Darwin's idea of evolution</li> </ul>                                                                                                                                                            |
|        | <b>Light</b>                                                     | <ul style="list-style-type: none"> <li>recognize that light appears to travel in straight lines</li> <li>understand that objects are seen because they give out light or reflect light into the eye</li> <li>use the understanding of how light travels to explain the shape of shadows</li> </ul>                                                                                                            | <ul style="list-style-type: none"> <li>deciding where to place rear-view mirrors on cars;</li> <li>designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works.</li> <li>they might investigate the relationship between light sources, objects and shadows by using shadow puppets.</li> <li>they could extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur)</li> <li>what happens to the size of a shadow when you move the light source?</li> <li>Can you see round a corner – periscopes?</li> <li>Which materials are best for reflecting light?</li> <li>What colour writing can be seen best in the dark?</li> <li>How many reflections can you create using mirrors?</li> <li>Which light makes the best shadows?</li> <li>Find your blind spot</li> <li>Make a pinhole camera</li> <li>Bend light using water or prisms</li> </ul> |
|        | <b>Electricity</b>                                               | <ul style="list-style-type: none"> <li>associate the brightness of a bulb or volume of a buzzer with the number of cells and the voltage of cells used in a circuit</li> <li>use recognised symbols when representing a simple circuit diagram</li> <li>give reasons for variations in how components function</li> </ul>                                                                                     | <ul style="list-style-type: none"> <li>systematically identifying the effect of changing one component at a time in a circuit</li> <li>design and making a set of traffic lights, a burglar alarm or some other useful circuit</li> <li>does adding another battery make any difference to a circuit?</li> <li>Does the thickness of the wire affect the brightness of the bulb?</li> <li>Does the length of the wire affect the brightness of the bulb?</li> <li>Design and make a burglar alarm</li> <li>Spot the mistake in a circuit diagram and correct</li> <li>Draw circuits using correct symbols</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Science – Key Vocabulary in KS1 and KS2 – knowledge and progression

Where applicable, ensure that children have retained the vocabulary from the previous time the topic was covered.

This is not an exhaustive list!

|                                  | Year 1                                                                                                                                                                       | Year 2                                                                                                                                                   | Year 3                                                                                                                                      | Year 4                                                                                                                                                                                                                                                      | Year 5                                                                                                                                                             | Year 6                                                                                                                                                                                                                      |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Animals, Including Humans        | <b>Animals, Including Humans</b><br>fish, reptiles, mammals, birds, amphibians, herbivore, omnivore, carnivore, habitat, leg, arm, elbow, head, ear, nose, back, wings, beak | <b>Animals, Including Humans</b><br>survival, water, air, food, adult, baby, offspring, kitten, calf, puppy, exercise, hygiene, nutrition, food group    | <b>Animals, Including Humans</b><br>movement, muscles, bones, skull, nutrition, skeletons, function, endoskeleton, exoskeleton, food groups | <b>Animals, Including Humans</b><br>mouth, tongue, teeth, oesophagus, stomach, small intestine, large intestine, herbivore, carnivore, canine, incisor, molar, food chain, producer, predator, prey                                                         | <b>Animals, Including Humans</b><br>foetus, embryo, womb, gestation, baby, toddler, teenager, elderly, growth, development, puberty                                | <b>Animals, Including Humans</b><br>circulatory, heart, blood vessels, veins, arteries, capillaries, oxygenated, deoxygenated, valve, exercise, respiration, diet, nutrient, transport, drug, substance, harmful, lifestyle |
| Evolution and Inheritance        |                                                                                                                                                                              |                                                                                                                                                          |                                                                                                                                             |                                                                                                                                                                                                                                                             |                                                                                                                                                                    | <b>Evolution and Inheritance</b><br>change, fossil, offspring, vary, identical, non-identical, adaptation, evolution                                                                                                        |
| Plants                           | <b>Plants</b><br>deciduous, evergreen trees, leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem                                              | <b>Plants</b><br>seeds, bulbs, water, light, temperature/warmth, growth                                                                                  | <b>Plants</b><br>air, light, water, nutrients, soil, reproduction, transportation, dispersal, pollination, flower, fertiliser, life cycle   |                                                                                                                                                                                                                                                             |                                                                                                                                                                    |                                                                                                                                                                                                                             |
| Living Things and their Habitats |                                                                                                                                                                              | <b>Living Things and their Habitats</b><br>needs, dependent, habitat, environment, microhabitat, local environment, food source, shelter, sort, classify |                                                                                                                                             | <b>Living Things and their Habitats</b><br>vertebrate, invertebrate, fish, amphibian, reptile, bird, mammal, insect, flowering, non-flowering, fern, moss, nature reserve, environment, habitat, ecology, population, development, pollution, deforestation | <b>Living Things and their Habitats</b><br>mammal, reproduction, insect, amphibian, bird, offspring, life cycle, sexual, asexual, seed, stem, root, tuber, rhizome | <b>Living Things and their Habitats</b><br>similarity, difference, plant, animal, micro-organism, classification, subdivision, vertebrate, invertebrate, key                                                                |

|                                  |                                                                                                                |                                                                                                                                                                                                                                                    |                                                                                                                                                                          |                                                                                                                                                              |                                                                                                                                                                                                                        |                                                                                                                                                                                 |
|----------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Materials                        | <b>Everyday Materials</b><br>wood, plastic, glass, paper, water, metal, rock, hard, soft, bendy, rough, smooth | <b>Uses of Everyday Materials</b><br>hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, waterproof, absorbent, opaque, transparent, brick, paper, fabrics, squashing, bending, twisting, stretching elastic, foil, identify, classify | <b>Rocks</b><br>group, classify, appearance, soil, organic matter, hand lens, microscope, sedimentary, igneous, metamorphic, grains, crystals, fossil, abrasion, erosion | <b>States of Matter</b><br>solid, liquid, gas, heating, cooling, state, change, evaporation, condensation, water cycle                                       | <b>Properties and changes of materials</b><br>hardness, solubility, conductivity, response, dissolve, solution, substance, separation, evaporating, mix, mixture, state, reversible, irreversible, filter, sieve, melt |                                                                                                                                                                                 |
| Forces/<br>Magnets               |                                                                                                                |                                                                                                                                                                                                                                                    | <b>Forces and magnets</b><br>magnetic, force, contact, attract, repel, friction, poles, push, pull, bar, ring, button, horseshoe, strength                               |                                                                                                                                                              | <b>Forces</b><br>air resistance, water resistance, friction, gravity, newton, gears, pulleys, advantage                                                                                                                |                                                                                                                                                                                 |
| Electricity                      |                                                                                                                |                                                                                                                                                                                                                                                    |                                                                                                                                                                          | <b>Electricity</b><br>cells, wires, bulbs, switches, buzzers, battery, circuit, series, conductors, insulators, component, current, voltage, circuit diagram |                                                                                                                                                                                                                        | <b>Electricity</b><br>cells, wires, bulbs, switches, buzzers, battery, circuit, series, conductors, insulators, amps, volts, circuit diagram, component, symbol, series circuit |
| Seasonal changes/Earth and Space | <b>Seasonal Changes</b><br>summer, spring, autumn, winter, sun, day, moon, night, light, dark                  |                                                                                                                                                                                                                                                    |                                                                                                                                                                          |                                                                                                                                                              | <b>Earth and Space</b><br>earth, sun, moon, axis, rotation, day, night, phases of the moon, star, constellation, spherical, solar system, sundial, shadow clock, calibration                                           |                                                                                                                                                                                 |
| Sound                            |                                                                                                                |                                                                                                                                                                                                                                                    |                                                                                                                                                                          | <b>Sound</b><br>volume, vibration, wave, pitch, tone, speaker, medium, insulation                                                                            |                                                                                                                                                                                                                        |                                                                                                                                                                                 |
| Light                            |                                                                                                                |                                                                                                                                                                                                                                                    | <b>Light</b><br>light, dark, absence, reflect/reflection, light source, shadow, transparent, translucent, opaque, mirror                                                 |                                                                                                                                                              |                                                                                                                                                                                                                        | <b>Light</b><br>source, light wave, shadow, light source, reflection, periscope, rainbow, spectrum, filter                                                                      |