**Progression In Science**

|  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
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| **Scientific Thinking Skills** |  |  |  |
| Ask Qs & plan enquiry | Ask simple Qs and recognise that they can be answered in different ways\*. | Ask relevant questions and use different types\* of scientific enquiries to answer them. | Plan different types\* of scientific enquiries to answer their own questions, including recognising and controlling variables where necessary. |
| Set up enquiry | Perform simple tests.  | Set up simple practical enquiries, comparative and fair tests. | Use test results to make predictions to set up further comparative and fair tests. |
| Observe & Measure | Observe closely, using simple equipment | Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate | Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate |
| Record | Gather and record data to help in answering questions | Gather, record, classify and present data in a variety of ways to help in answering questions.Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. | Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. |
| Interpret. & Port | Identify and classify.Use appropriate scientific language to communicate ideas. | Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.Identify differences, similarities or changes related to simple scientific ideas and processes. | Report and present findings from enquiries, inc conclusions and causal relationships, in oral and written forms such as displays and other presentations, using appropriate scientific language. |
| Evaluate | Use their observations and ideas to suggest answersto questions | Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.Use straightforward scientific evidence to answer questions or to support their findings. | Explain degree of trust in results.Identify and evaluate scientific evidence (their own and others’) that has been used to support or refute ideas or arguments. |
| **Topics** |  |  |  |  |  |  |
| Plants | Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.• Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.• Observe and describe how seeds and bulbs grow into mature plants.• Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. | Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. | Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.• Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.• Investigate the way in which water is transported within plants.• Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. |  | Describe the life process of reproduction in some plants and animals. |  |
| Animals inc Humans | Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.• Identify and name a variety of common animals that are carnivores, herbivores and omnivores.• Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. | Notice that animals, including humans, have offspring which grow into adults.• Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).• Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).• Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene. • 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. | Identify that humans and some animals have skeletons and muscles for support, protection and movement.Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. | Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.• Construct and interpret a variety of food chains, identifying producers, predators and prey.• Identify that humans and some animals have skeletons and muscles for support, protection and movement.• Describe the simple functions of the basic parts of the digestive system in humans.• Identify the different types of teeth in humans and their simple functions. | Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.Describe the changes as humans develop to old age.• Describe the ways in which nutrients and water are transported within animals, including humans. | Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.• Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions. |
| Living things and their Habitats |  | Explore and compare the differences between things that are living, that are dead and that have never been alive.• Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.• Identify and name a variety of plants and animals in their habitats, including micro-habitats.• 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. |  | Recognise that living things can be grouped in a variety of ways.• Explore and use classification keys.• Recognise that environments can change and that this can sometimes pose dangers to specific habitats. |  | Describe how living things are classified into broad groups according to common observable characteristics.• Give reasons for classifying plants and animals based on specific characteristics. |
| Evolution and Change |  |  |  |  |  | Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. |
| Materials | Distinguish between an object and the material from which it is made.• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.• Describe the simple physical properties of a variety of everyday materials.• Compare and group together a variety of everyday materials on the basis of their simple physical properties.• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses. | Distinguish between an object and the material from which it is made.• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.• Describe the simple physical properties of a variety of everyday materials.• Compare and group together a variety of everyday materials on the basis of their simple physical properties.• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses. | Compare and group together different kinds of rocks on the basis of their simple, physical properties.• Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).• Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.• Recognise that soils are made from rocks and organic matter. | Compare and group materials together, according to whether they are solids, liquids or gases.• Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.• Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. | Demonstrate that dissolving, mixing and changes of state are reversible changes.• Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidisation and the action of acid on bicarbonate of soda. |  |
| Forces |  |  | Compare how things move on different surfaces.• Notice that some forces need contact between two objects, but magnetic forces can act at a distance.• Observe how magnets attract or repel each other and attract some materials and not others.• Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.• Describe magnets as having two poles.• Predict whether two magnets will attract or repel each other, depending on which poles are facing. |  | Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.• Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.• Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.• Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.• Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect. |  |
| Light and Sound |  |  | Recognise that they need light in order to see things and that dark is the absence of light.• Notice that light is reflected from surfaces.• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.• Recognise that shadows are formed when the light from a light source is blocked by a solid object.• Find patterns in the way that the size of shadows change. | Identify how sounds are made, associating some of them with something vibrating.• Recognise that vibrations from sounds travel through a medium to the ear. |  | Understand that light appears to travel in straight lines.• Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes.• Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. • 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. |
| Electricity |  |  |  | Identify common appliances that run on electricity.• Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.• Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp ispart of a complete loop with a battery.• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.• Recognise some common conductors and insulators, and associate metals with being good conductors. |  | Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.• Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.• Use recognised symbols when representing a simple circuit in a diagram. |