

Curriculum Goals – Science



Year 1

Autumn Term
I can identify and name basic parts of the human body.
I can label the basic parts of the human body.
I can identify which part of the body is associated with each sense.
I can use observations to support my understanding.
I can observe changes across the four seasons
I can observe and describe weather associated with the seasons
I can identify how day length varies.
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.

Spring Term
I can distinguish between an object and the material from which it is made
I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
I can describe the simple physical properties of a variety of everyday materials
I can compare and group together a variety of everyday materials on the basis of their simple physical properties.

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Summer Term
I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
I can identify and name a variety of common animals that are carnivores, herbivores and omnivores
I can ask and answer simple questions about animal's diets to improve knowledge.
I can identify and name a variety of common wild and garden plants,
I can identify and name deciduous and evergreen trees
I can identify and describe the basic structure of a variety of common flowering plants, including trees
I can ask and answer simple questions about plant names and what a plant needs to survive to help me understand.

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Year 2

Autumn Term
I can explain what some animals and plants need to survive.
I can name creatures that could be found in micro-habitats.
I can name creatures that could be found in different habitats and explain the suitability of these habitats.
I can compare differences between living things, dead things and things that have never been alive.
I can draw a food chain and explain what it represents.
I can explain what adaptation is and why animals need to adapt to their environment.
I can understand the basic needs to animals, including humans.
I can suggest foods that are eaten by different herbivores, omnivores and carnivores and why.
I can describe and explain the life cycle of a living creature.
I can describe the importance of exercise as part of a healthy lifestyle.

Spring Term
I can observe and describe how seeds and bulbs grow into mature plants.
I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
I can ask and answer simple questions to improve knowledge
I can understand that sounds use vibrations
I understand that sound travels in waves.
I can use observations to support my understanding.

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Summer Term
I can name and describe a range of everyday materials.
I can suggest the suitability of different materials for particular uses.
I can understand that some objects' shapes can be changed by squashing, bending, twisting and stretching.
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.
I can explain the difference between pushes and pulls.
I can understand where pushes and pulls occur in everyday life.
I can describe what happens to objects when force is placed upon them.

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Year 3

Autumn Term
I can explain how magnets attract and repel each other.
I can identify some magnetic materials.
I can identify the poles on a magnet.
I understand what a push / pull force is.
I can sort and compare different kinds of rocks based on their properties.
I can understand and explain the fossilisation process.
I can explain different types of rocks and their uses.
I can ask and answer simple questions by investigating.
I can use observations to support

Spring Term
I can identify that animals including humans need the right type of nutrition
I can understand that animals including humans cannot make their own food and they get nutrition from what they eat.
I can identify and understand that humans and some animals have skeletons and muscles for support, protection and movement.
I can identify and describe the functions of a plant: roots, stem, leaves and flowers.
I can explore the requirements of a plant for life and growth
I can investigate the way which water is transported within plants.
I can explore the different parts in the plant life cycle including: pollination

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Summer Term
I can understand and explain that shadows are formed when the light from a light source is blocked by a solid object.
I can understand that light is reflected from surfaces.
I can understand and explain that light from the sun can be dangerous and that there are ways to protect the eyes.
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.
I can make a predictions
I can set up a practical enquiry / fair test
I can record my findings using simple scientific language, drawings, diagrams and bar charts.
I can use a range of equipment and take careful observations.

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Year 4

Autumn Term
I can compare and group materials together, according to whether they are solids, liquids or gases
I can 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 ($^{\circ}\text{C}$)
I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.
I can make a predictions
I can set up a practical enquiry / fair test
I can record my findings using simple scientific language, drawings, diagrams and bar charts.
I can use a range of equipment and take careful observations.

Spring Term
I can identify common appliances that run on electricity
I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
I can identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
I can recognise some common conductors and insulators, and associate metals with being good conductors.
I can identify how sounds are made, associating some of them with something vibrating

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I can recognise that vibrations from sounds travel through a medium to the ear
I can find patterns between the pitch of a sound and features of the object that produced it
I can find patterns between the volume of a sound and the strength of the vibrations that produced it
I can recognise that sounds get fainter as the distance from the sound source increases

Summer Term
I can describe the simple functions of the basic parts of the digestive system in humans.
I can identify the different types of teeth in humans and their simple functions.
I can construct and interpret a variety of food chains, identifying producers, predators and prey.
I can use observations to support my understanding.
I can recognise that living things can be grouped in a variety of ways.
I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
I can recognise that environments can change and that this can sometimes pose dangers to living things.
I can ask and answer questions to help develop knowledge.

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Year 5

Autumn Term
I understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
I can demonstrate that dissolving, mixing and changes of state are reversible changes
I can 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 and the action of acid on bicarbonate of soda.
I can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.

Spring Term
I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system
I can describe the movement of the Moon relative to the Earth
I can describe the Sun, Earth and Moon as approximately spherical bodies
I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
I can describe the life process of reproduction in some plants and animals.
I can ask and answer questions to help develop knowledge.

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Summer Term
I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
I can identify the effects of air resistance, water resistance and friction that act between moving surfaces.
I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.
I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.
I can describe the ways in which nutrients and water are transported within animals, including humans.
I can use observations to support my understanding.

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Year 6

Autumn Term
I can recognise that light appears to travel in straight lines.
I can explain the process of how we see things e.g. because light travels from light sources to our eyes.
I can understand and explain why shadows have the same shape as the objects that cast them.
I can compare and give reasons for variations in how components function using the key vocabulary to explain my answer.
I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
I can 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
I can use recognised symbols when representing a simple circuit in a diagram.
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.

Spring Term
I can describe how living things are classified into broad groups and highlight similarities and differences including micro-organisms, plants and animals.
I can give reasons for classifying plants and animals based on specific characteristics.
I can describe the ways in which nutrients and water are transported within animals, including humans.
I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago.
I can recognise that living things produce offspring of the same kind, but normal offspring vary and are not identical to their parents.
I can identify how animals and plants are adapted to suit their environment in different ways and that adaption may lead to evolution.

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Summer Term
I can answer science questions using different types of investigation and observations.
I can draw conclusions based on evidence and justify my ideas.
I can use key vocabulary within my answers to show my understanding of a topic.
I can ask and answer simple questions by investigating.
I can use observations to support my understanding.