



Science Curriculum Overview 2017-2018

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Seasonal changes	Animals, including humans SE: Golder's Hill Park	Seasonal changes Focus Scientist: <i>David Attenborough</i>	Everyday Materials	Seasonal changes w/ Data loggers	Plants
Year 2	Animals, including humans	Uses of Everyday materials	Living things and their habitats	Let's Investigate: Habitats	Focus scientist: <i>Diane Fossey</i>	Plants w/ Data loggers
Year 3	Rocks	Forces and magnets SE: Science Museum	Let's Investigate: <i>Forces in Action</i> Focus Scientist: <i>Isaac Newton</i>	Animals, including humans	Plants	Light w/ Data loggers
Year 4	Living things and their habitats SE: Ecology Centre	States of matter w/ Data loggers	Animals, including humans	Electricity	Sound w/ Data loggers	Let's Investigate: <i>Sound</i> Focus Scientist: <i>Heinrich Hertz</i>
Year 5	Properties and changes of materials	Earth and space SE: Planetarium	Forces	Light w/ Data loggers	Animals, including humans Focus Scientist: <i>Rachel Carson</i>	Living things and their habitats
Year 6	Electricity w/Data loggers	Evolution and inheritance SE: Natural History Museum	Animals, including humans	Living things and their habitats	Focus scientist: <i>Charles Darwin</i>	Let's Investigate: <i>Alternative Energy</i> w/ data loggers

Sc2 : Biology			Sc3: Chemistry		Sc4: Physics			
Animals inc humans	Plants	Living things and their habitats	Rocks	Materials and states of matter	Magnets and Forces	Waves: Sound/Light	Electricity	Earth and space
Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	Explore and compare the differences between things that are living, dead and things that have never been alive	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	Distinguish between an object and the material from which it is made	Begin to introduce forces and some key vocabulary	Recognise that they need light in order to see things and that dark is the absence of light	Introduce simple electricity by going for an electricity walk around the school	Observe changes across the four seasons
Identify and name a variety of common animals that are carnivores, herbivores and omnivores	Identify and describe the basic structure of a variety of common flowering plants, including trees	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	Describe in simple terms how fossils are formed when things that have lived are trapped within rock	Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock	Compare how things move on different surfaces	Notice that light is reflected from surfaces	Identify common appliances that run on electricity	Observe and describe weather associated with the seasons and how day length varies
Notice that animals, including humans, have offspring which grown into adults	Observe and describe how seeds and bulbs grow and mature into plants	Identify and name a variety of plants and animals in their habitats, including micro-habitats	Recognise that soils are made from rocks and organic matter	Describe the simple physical properties of a variety of everyday materials	Notice that some forces need contact between two objects, but magnetic forces can act at a distance	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system
Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	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	Properties and changes of materials	Compare and group together a variety of everyday materials on the basis of their simple physical properties	Observe how magnets attract or repel each other and attract some materials and not others	Recognise that shadows are formed when the light from a light source is blocked by a solid object	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	Describe the movement of the Moon relative to the Earth
Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers	Recognise that living things can be grouped in a variety of ways	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	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	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	Find patterns in the way that the size of shadows change	Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit	Describe the Sun, Earth and Moon as approximately spherical bodies
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	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	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Predict whether two magnets will attract or repel each other, depending on which poles are facing	Identify how sounds are made, associating some of them with something vibrating	Recognise some common conductors and insulators and associate metals with being good conductors	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky
Identify that humans and some other animals have skeletons and muscles for support, protection and movement	Investigate the way in which water is transported within plants	Recognise that environments can change and that this can sometimes pose dangers to living things	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	Compare and group materials together, according to whether they are solids, liquids or gases	Describe magnets as having two poles	Recognise that vibrations from sounds travel through a medium to the ear	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit	
Describe the simple functions of the basic parts of the digestive system in humans	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	Describe the difference in the life cycles of a mammal, an amphibian, an insect and a bird	Give reasons, based on evidence from fair tests, for the particular uses of everyday materials, including metals, wood and plastic	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	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	Find patterns between the pitch of a sound and features of the object that produced it	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	
Identify the different types of teeth in humans and their simple functions	Evolution and inheritance	Describe the life process of reproduction in some plants and animals	Demonstrate that dissolving, mixing and changes of state are reversible changes	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Find patterns between the volume of a sound and the strength of the vibrations that produced it	Use recognised symbols when representing a simple circuit in a diagram	
Construct and interpret a variety of food chains, identifying producers, predators and prey	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago	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	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	Compare and group materials together, according to whether they are solids, liquids or gases	Recognise that some mechanisms, including levers, pulleys and gears, allow a small force to have a greater effect	Recognise that light appears to travel in straight lines		
Describe the changes as humans develop into old age	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents	Give reasons for classifying plants and animals based on specific characteristics		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		Use the idea that light travels from light sources to our eyes or from light sources to objects and then to our eyes		
Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution			Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature		Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them		
Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function								
Describe the ways in which nutrients and water are transported within animals, including humans		Key	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

