

	<u>Year 1</u>							
Autumn 1: A change over time	Autumn 2: Carnival of animals	Spring 1: A Step in Time	Spring 2: Very Victorian Values	Summer 1: Fe Fi Fo Fum	Summer 2: Whole School Topic			
Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.	Animals Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).	Humans Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Observe changes across the four seasons.	Everyday 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.	Plants/Seasonal Changes Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees. Observe changes across the four seasons	Animals/Seasonal Changes Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Observe changes across the four seasons			
observing closely using simple equipment e.g. thermometer.	asking simple questions and recognising that they can be answered in different ways gathering and recording data to help in answering questions. Observing closely	performing simple tests. gathering and recording data to help in answering questions.	Using observations and ideas to suggest answers to questions. Performing simple tests Observing closely, using simple equipment	identifying and classifying. asking simple questions and recognising that they can be answered in different ways	Using their observations and ideas to suggest answers to questions in different ways. Identifying and classifying.			
Observation over time Pattern Seeking	Researching Identifying, classifying and grouping	Researching	Identifying, classifying and grouping. Gathering and recording data.	Pattern seeking Identifying and classifying	Observation over time Researching			
Physics How the world changes around us.	Biology How all animals are different but have some characteristics that are similar.	Biology How our bodies help us to appreciate the world around us.	Chemistry How materials are tested to ensure they are fit for the purpose intended.	Biology How plants change to suit their habitat.	Biology How all animals are different but have some characteristics that are similar.			
BBC meteorologists, military weather officer, meteorological technician Channel 4 - Liam Dutton meteorologist	Looking after animals - vet, marine biologist, animal charities, caring for Willow Zoologist - Rachel Carson	Doctor, nurse, optologist, audiologist Elizabeth Garrett Anderson - first female doctor in the UK	Fashion designer, engineer, road worker, builder, plumber Stephanie Kwolek - invented an immensely strong plastic.	Garden centre worker, tree surgeon, tree planter, conservation worker, Botanist - Barbara McClintock	Looking after animals - vet, marine biologist, animal charities, caring for Willow, zoo keeper. Noel Fitzpatrick - SuperVet			
	Seasonal Changes Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. • observing closely using simple equipment e.g. thermometer. • Observation over time • Pattern Seeking Physics How the world changes around us. BBC meteorologists, military weather officer, meteorological technician Channel 4 - Liam Dutton	Seasonal Changes Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Observing closely using simple equipment e.g. thermometer. Observing closely using simple equipment e.g. thermometer. Observation over time Pattern Seeking Physics How the world changes around us. Animals Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). * asking simple questions and recognising that they can be answered in different ways gathering and recording data to help in answering questions. Observing closely Researching Identifying, classifying and grouping Physics How the world changes around us. Biology How all animals are different but have some characteristics that are similar. BBC meteorologists, military weather officer, meteorological technician Channel 4 - Liam Dutton	Autumn 1: A change over time Seasonal Changes Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Observing closely using simple equipment e.g. thermometer. Observing closely using simple equipment e.g. thermometer. Observation over time Pattern Seeking Physics How the world changes around us. Animals Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Observe changes across the four sasociated with each sense. Observe changes across the four seasons. Observing closely using simple equestions and recognising that they can be answered in different ways gathering and recording data to help in answering questions. Observing closely Researching Physics How the world changes around us. Biology How all animals are different but have some characteristics that are similar. BBC meteorologists, military weather officer, meteorological technician Channel 4 - Liam Dutton Animals Identify, name, draw and label the basic parts of the human body and savoic parts of the	Autumn 1: A change over time Autumn 2: Carnival of animals Seasonal Changes Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Observe and describe weather associated with the seasons and how day length varies. Observe and mammals. Describe and compare the structure of a variety of common animals including fish, amphibians, reptiles, birds and mammals. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Observe changes across the four seasons. Observe day materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties. Observed the simple seasons. Observed the seasons. Observed the seasons. Observed the seasons. Ob	Autumn 1: A change over time Seasonal Changes Observe changes across the four tassons. Observe changes across the four tassons, replies, birds and mammals. Doserve and describe weather associated with the seasons and how day length varies. Observe in the seasons and how day length varies. Observe changes across the four tassons, and how day length varies. Observe and describe weather associated with the seasons and how day length varies. Observe changes across the four sas which part of the body is another than the seasons and how day length varies. Observe changes across the four sas which part of the body is associated with each sense. Observe changes across the four sas which part of the body is another than the sacons and how day length varies. Observe changes across the four sas which part of the body is another than the sacons and how day length varies. Observe changes across the four sas which part of the body is a save which part of the body is dentify and name a variety of common wild and garden plants, including describe the simple physical properties to the same variety of everyday materials, including the every developed the the simple physical properties of the variety of everyday materials to on the basis of their simple physical properties of the variety of everyday materials. Observe changes across the four sas which part of the body is a variety of everyday materials, including the experiment of everyday materials, i			



NC knowledge and understanding Exp	Autumn 1: London Landmarks iving things and their habitats xplore and compare the ifferences between things that	Autumn 2: Hearts and Lanterns Animals including humans-	Spring 1: Under the Sea	Spring 2: Disaster strikes	Summer 1: A journey to Discovery	
understanding Exp	xplore and compare the				Summer 1: A journey to Discovery	Summer 2: Whole School Topic
hai Ide live sui hai ne ani de Ide	re living, dead, and things that ave never been alive. dentify that most living things we in habitats to which they are	(humans) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. [Link to SRE Y1] Find out about and describe the basic needs humans, for survival (water, food and air).	Living things and their habitats - food chains (link to Y1 summer 2 - key wocabulary) 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.	Materials (Links to Yr1) Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (applying a force).	Animals including humans - (animals and their offspring) Notice that animals have offspring which grow into adults.	Plants (Links to Y1) 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.
SC1 skills - working scientifically Biology Chemistry Physics	Identifying and classifying. Asking simple questions and recognising they can be answered in different ways.	 Performing simple tests. Asking simple questions and recognising they can be answered in different ways. 	 Asking simple questions and recognising they can be answered in different ways. Identifying and classifying 	Performing simple tests Observing closely, using simple equipment gathering and recording data to help in answering questions.	 Identifying and classifying. Using their observations and ideas to suggest answers to questions. 	gathering and recording data to help in answering questions. Observing closely Using their observations and ideas to suggest answers to questions.
Type of enquiry	Research Identifying and classifying	Research Pattern seeking	Research Identifying and classifying	Fair testing Identifying and classifying	Identifying, classifying and grouping. Research	Observing over time. Comparative and fair testing
Ho	iology How living things adapt to their urroundings to survive.	Biology Identifying ways to keep ourselves and animals healthy.	Biology How every part of the food chain has an important part to play in the survival of different species.	Chemistry How materials are tested to ensure they are fit for the purpose intended.	Biology How animals including humans change over time.	Biology How plants are similar to humans and animals and have certain needs to survive.
bio Car livi	vildlife technician, wildlife iologist, wetland biologist arolus Linnaeus investigated ving things and their habitats, onservation worker	Zoologist, vet, gymnast, fitness instructor Louis Smith - gymnast	Marine biologist, habitat restoration officer, wetland biologist Spring watch - Chris Packham	Fashion designer, engineer, road worker, builder, plumber Charles MacIntosh - invented waterproof material	Zoologist, vet, marine biologist, animal technologist	Garden centre worker, tree surgeon, tree planter, conservation worker, botanist Ira Gabrielson - conservationist pioneer Margaret Fountaine - Lepidopterist
Outcome		What advice would you give		To understand why some		

materials are better suited to an item than others.

Florence Nightingale or Mary Secole about a healthy day?



	Year 3								
Topic	Autumn 1: Supermarket Sweep	Autumn 2: Rotten Romans	Spring 1: Settle Down	Spring 2: Secret Garden	Summer 1: Dig Deep	Summer 2: Whole School Topic			
NC knowledge and understanding	Animals including humans (Links to Yr2) 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.	Light 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 an opaque object. Find patterns in the way that the size of shadows change.	Forces and magnets (Links to materials Y2) 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.	Plants (Links to Y1 and Y2) Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, 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 part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Rocks and fossils Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.	Animals including humans - skeleton, muscles Some other animals have skeletons and muscles for support, protection and movement.			
SC1 skills - working scientifically Biology Chemistry Physics	Use straightforward science to answer questions. Gather and classify data in a variety of ways to help answer questions. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests.	Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations using a range of equipment. Recording findings in tables.	Setting up simple practical enquiries, comparative and fair tests, taking accurate measurements. Record findings using simple scientific language, drawings and labelled diagrams.	Use straightforward science to answer questions. Making systematic and careful observations using a range of equipment. Record findings using simple scientific language, drawings and labelled diagrams.	Identify differences, similarities or changes related to simple scientific ideas. Report on findings from enquiries using oral and written explanations. Use straightforward science to answer questions.			

Hillcross Working Scientifically Progression	Classifying into eatwell plate. Written/Oral Explanation why we eat fats, fibres, protiens and carbohydrates. Record data in tables.					
Type of enquiry	Research Identifying and classifying	Pattern seeking Comparative and fair testing.	Pattern seeking Comparative and fair testing.	Comparative and fair testing. Observing over time Pattern seeking	Research Identifying and classifying	Pattern seeking Research Identifying and classifying
Scientific concepts Biology Chemistry Physics	Biology How humans have survived over thousands of years.	Physics How shadows are created and that darkness is the absence of light	Physics How magnets can be used in everyday life.	Biology How plants are similar to humans and have certain requirements to survive.	Chemistry When the world was created it contained all the natural resources it would need.	Biology That a variety of other animals have skeletons and/or muscles to support their movement.



	Year 4						
Topic	Autumn 1: Walk Like an Egyptian	Autumn 2: Journey over Europe	Spring 1: Battle Stations	Spring 2: Natural Disasters	Summer 1: Playing Cat and Mouse	Summer 2: Whole School Topic	
NC knowledge and understanding	Animals including humans 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. Construct and interpret a variety of food chains, identifying producers, predators and prey (Links to Y2)	Living things and their habitats Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.	Sound Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.	States of 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 or research the temperature at which this happens in degrees Celsius (°C). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Electricity - circuits 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 is part 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.	Electricity - conductors and insulators Recognise some common conductors and insulators, and associate metals with being good conductors.	
SC1 skills - working scientifically Biology Chemistry Physics	Asking relevant questions and using different types of scientific enquiries to answer them. Using results to draw simple conclusions, suggest improvements and raise further questions.	identify differences, similarities or changes related to simple scientific ideas. Report on findings from enquiries using displays or presentations of results. Recording findings using scientific language and keys.	Make systematic and careful observations taking accurate measurements using a range of equipment. Using results to draw simple conclusions Gathering, recording and presenting data to answer questions.	Setting up simple practical enquiries, comparative and fair tests. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Recording findings using bar charts	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Recording findings using scientific language and drawings	Asking relevant questions and using different types of scientific enquiries to answer them. Using straightforward scientific evidence to answer questions or to support findings.	
Type of enquiry	Researching Comparative and fair testing.	Identifying and classifying Research Pattern seeking	Comparative and fair testing. Pattern seeking	Pattern seeking Fair testing Observation over time	Comparative and fair testing. Pattern seeking	Research Pattern seeking Identifying and classifying	
Scientific concepts	Biology Different parts of the human body work together to help us survive.	Biology The similarities and differences between living things.	Physics How different parts of the human body are connected and this allows us to hear.	Chemistry How the same material can be represented in different ways but be returned to its original state.	Physics How electricity works and benefits are daily life.	Physics How to stay safe around electricity and how it can travel in different ways.	



	Year 5								
Topic	Autumn 1: We're the kids in America	Autumn 2: Third Rock from the sun	Spring 1: It's all Greek to me	Spring 2: Oh I do like to be beside the seaside.	Summer 1: Marvellous Mayas	Summer 2: Whole School Topic			
NC knowledge and understanding	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction that act between moving surfaces.	Earth and Space Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	Living things and their habitats (last taught in years 1,2 and 4) Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.	Forces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	Properties and changes to materials (reversible) 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. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases taught in year 4 to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes.	Properties and changes to materials (irreversible) 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. Describe the changes as humans develop to old age. (Statutory) including puberty (Non statutory and links toPSHE)) Describe the life process of reproduction in animals. Link to SRE.			
SC1 skills - working scientifically	Planning different scientific enquiries to answer questions, including controlling variables where necessary. Reporting and presenting findings from enquiries using causal relationships Recording data and results of increasing complexity	Identify scientific evidence that has been used to support or refute ideas or arguments. Recording data and results of increasing complexity using scientific diagrams and labels.	Reporting and presenting findings from enquiries in oral and written forms such as displays and other presentations. Recording data and results of increasing complexity using scientific diagrams and labels.	Planning different scientific enquiries to answer questions, including controlling variables where necessary. Taking measurements using a range of scientific equipment, taking repeat readings when appropriate.	Using test results to make predictions to set up further comparative and fair tests. Reporting and presenting findings from enquiries including conclusions and causal relationships.	 Reporting and presenting findings from enquiries including conclusions and causal relationships. 			

	using tables and bar graphs.					
Type of enquiry	Pattern seeking Observing over time Comparative and fair testing.	Research Identifying and classifying Observation over time.	Research Pattern seeking Identifying and classifying	Comparative and fair testing Pattern seeking Research	Comparative and fair testing Pattern seeking Observation over time.	Research Identifying and classifying Comparative and fair testing
	Physics Forces support the natural development of the world.	Physics How the Earth, moon and sun work together to support all living things.	Biology How animals use the resources in the environment to stay alive.	Physics How pulleys and levers can be used to move heavy loads.	Chemistry There are reversible changes to materials and these can change, strengthen or weaken a material.	Chemistry There are irreversible changes to materials and these can change, strengthen or weaken a material. Biology Humans change throughout their lifecycle.



	Year 6							
Topic	Autumn 1: Everybody want to rule the world	Autumn 2: A Class Act	Spring 1: War of the Worlds	Spring 2: Peace at Last	Summer 1: Game, Set and Match	Summer 2: Whole School Topic		
NC knowledge and understanding	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.	Living things and their habitats - animals and plants Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics.	Light (last taught in Y3) Recognise 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 eye 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Evolution 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.	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 impact of diet and exercise on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.	Animals including humans Recognise the impact of drugs and lifestyle on the way their bodies function.		
SC1 skills - working scientifically	Planning different scientific enquiries to answer questions, including recognising and controlling variables where necessary. Using test results to make predictions to set up further comparative and fair tests. Reporting and presenting findings from enquiries, including conclusions and explanations of and degree of trust in results. Pattern seeking	Recording data and results of increasing complexity using classification keys and scientific diagrams. Report and present findings from enquiries in oral or written forms such as displays and other presentations. Pattern seeking	Planning different scientific enquiries to answer questions, including recognising and controlling variables where necessary. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Identify scientific evidence that has been used to support ideas or arguments. Comparative and fair testing.	Identify scientific evidence that has been used to support or refute ideas or arguments. Report and present findings from enquiries in oral or written forms such as displays and other presentations. Recording results of increasingly complexity using scientific diagrams and labels Research	Recording data and results of increasing complexity using scatter graphs and line graphs. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Research	Using test results to make predictions to set up further comparative and fair tests. Recording data and results of increasing complexity using tables and scientific diagrams and labels. Identify scientific evidence that has been used to support or refute ideas or arguments.		
Type of enquity	Comparative and fair testing.	Research Identifying and classifying	Research	Identifying and classifying Pattern seeking	Pattern testing Identifying and classifying	Research Pattern seeking		
Scientific Concepts	Physics	Biology	Physics	Biology	Biology	Biology		

Biology Chemistry Physics	Different components can be altered to change the effect electricity has, for example, make the bulb brighter.	All living things have certain similarities to help them survive.	How different parts of the body work together to allow us to see.	How animals and humans have changed over time to suit their needs and changing habitat.	together to help us stay healthy.	All living things have certain characteristics to help them survive.
Science Capital	IT systems analyst, electrical engineer, electrical technician, control systems engineer Lyn Conway - electrical engineer	Primatologist, taxidermist, biostatician David Attenborough Walter Potter - taxidermist Carl Linnaeus - 5 Kingdoms	Optician, light technician - theatres, movie sets, laser engineer, optical engineer Patricia Bath - cataract treatment	Palaeontologist, biological anthropologist, evolutionary biologist geneticist Mary Anning - unsung hero of fossil discovery	nurse Marie Maynard Daly - the effect of drugs and poor diet on the heart.	Wildlife technician, doctor, nurse, surgeon, zoologist Alexander Flemming - penicillin Edward Jenner - Vaccine Sarah Gilbert - COVID Vaccine