

Willerby Carr Lane

Primary School



Curriculum Long Term Plan

SCIENCE

POLICY MANAGEMENT

Approved by	
Date approved	
Effective date	
Next review date	
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Curriculum Long Term Plan: SCIENCE

YEAR 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
Topic	Ourselves	Great Fire of London	United Kingdom	United Kingdom	Plants	Animals
Subject Focus	Animals including humans	Seasonal changes	Everyday materials	continued	Plants	Animals including humans
Programme of Study	<ul style="list-style-type: none"> Identify, name, draw and label parts of the human body, associate body parts with senses. 	<ul style="list-style-type: none"> observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Continued 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals 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 (fish, amphibians, reptiles, birds and mammals including pets)
Working Scientifically	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions
Activities/ Skills	<ul style="list-style-type: none"> Naming and labelling parts of a human body Naming and labelling parts of an ear. Investigating our sense of smell through identifying mystery smells Investigating our sense of taste 'Crisp investigation' Investigating sounds-Identifying animal noises Investigating our sense of exploring mystery objects in a feely bag or box. 	<ul style="list-style-type: none"> Keeping a weather diary Becoming weather reporters and giving weather forecasts using the correct vocabulary / terminology/ weather symbols Measuring the temperature and rain fall over a short period A walk observing changes to plants, trees, foliage, the weather and local environment. Ongoing observing and recording The changes for the four seasons are revisited throughout the year A BBC class clips video which visits the world's most northerly city and investigates why day length changes Explore why we have night and day 	<ul style="list-style-type: none"> Identifying everyday materials used in school What are the properties of these materials? Label items in class with material and properties Describing and sorting materials – use science vocabulary Feely bags – identify materials using the vocabulary learnt Researching and finding out what materials were used to build homes during The Great Fire of London Materials used to make firefighter's equipment and uniforms Investigating making a waterproof jacket by testing materials for their suitability 	<ul style="list-style-type: none"> Practically sorting materials according to their properties(recap) Going on a material hunt in and outside school Investigating which materials will fit into a small box 	<ul style="list-style-type: none"> A nature walks around our local environment. Exploring and naming different types of plants, looking closely at leaves to help identify types of trees and using identification books to name weeds. Drawing, naming and labelling parts of a plant. 	<ul style="list-style-type: none"> Sorting pictures of animals into different animal groups. Animal diests – what do carnivores, herbivores and omnivores eat? Animal teeth – identifying diet from teeth types Observing animals at a wildlife park, asking questions to a park ranger and carrying out research to make a class non-fiction book. Guess the mini beast using clues Using internet search engines and our library to find out about different types of animals

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YEAR 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
Topic	Where in the World	Where in the World	Florence Nightingale and Mary Seacole	Florence Nightingale and Mary Seacole	Habitats	Habitats
Subject Focus	none	Uses of everyday materials	Animals, including humans	none	Living things and their habitats	Plants
Programme of Study		<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults find out about 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 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things 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 microhabitats 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 	<ul style="list-style-type: none"> 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
Working Scientifically	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions
Activities/ Skills	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Match materials and their properties, learn science vocabulary for this Design a coat for Barnaby Bear which will keep him warm on his travels Pudsey changes the shape of materials – investigation into changing materials by squashing, twisting, bending and stretching Investigate forces – pushes and pulls 	<ul style="list-style-type: none"> Mother and baby matching Draw and label the lifecycle of a human and a frog using science vocabulary Sorting activity basic needs of humans Learn the names of different food groups and sort common foods into the correct group How to keep teeth healthy How to wash hands and why hygiene is important 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Identify differences between things which are alive and those which are dead Compare a living animal with a toy of the same animal Group living and non-living things and give reasons for choices Identify the correct habitat for a range of creatures Explain how animals have adapted to their habitats Make a shoebox habitat and label Hunt in school grounds for evidence of animals Create a food web using Disney characters Create a woodland food web 	<ul style="list-style-type: none"> Label parts of a plant Sunflower diary recording measurements – simple graph. Write and ask questions using the data Grow potatoes – monitor what is happening regularly, labelling sketches

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YEAR 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
Topic	The Stone Age to The Iron Age	The Stone Age to The Iron Age	Romans	Romans	Extreme Earth	Forces and Magnets
Subject Focus	Plants	Light	None	Animals including humans	Rocks	Forces and Magnets
Programme of Study	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> 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 identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> compare how things move on different surfaces notice that some forces need contact between 2 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 2 poles predict whether 2 magnets will attract or repel each other, depending on which poles are facing
Working Scientifically	<ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward 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Activities/ Skills	<ul style="list-style-type: none"> • Prior knowledge: Plants – what do we already know? (Chocolate bar activity) • Explore fact and fiction statements about plants using iPads • Label the different parts of a plant (stamen, pistil, sepal etc.) • To recognize the different functions of each part of a plant • To understand the life cycle of a plant (how they grow, die and reproduce) • To explore the process of seed dispersal through the use of drawing, pictures and role play • Research facts about a specific species of plant/exotic plant using ICT software • To know the male and female parts of a flower and understand their differing functions • To explore the process of cross-pollination by answering comprehensive questions • Post knowledge: Plants – what do we know now? 	<ul style="list-style-type: none"> • Prior knowledge: Light and dark – what do we already know? (Chocolate bar activity) • Feely bag activity – explore darkness by introducing the absence of light concept • Explore how to stay safe in the sun/sun safety • Design an advertisement of new innovative sunglasses with a high UV rating • Explore reflective surfaces with an experiment investigating which surfaces reflect the most and least light (explore fair testing, recording evidence and evaluating evidence) • Investigate the terms transparent, translucent and opaque by shining torches against different materials • Explore how objects create shadows by drawing them • Explore how an object creates a shadow by creating shadow puppets • Post knowledge: Light and dark – what do we know now? 		<ul style="list-style-type: none"> • Food chains matching activity • Create a food chain for the pond habitat • Investigate the role of muscles • Label a human skeleton 	<ul style="list-style-type: none"> • Prior knowledge: Rocks – what do we already know? (Chocolate bar activity) • To explore different types of rocks (practically categorising them into the three types of rock) • Research the different types of rocks • To create an informative poster/leaflet • Explore fossil formation • To create a fossil using sand and a fossil mould • Post knowledge: Rocks – what do we know now? 	<ul style="list-style-type: none"> • Prior knowledge: Forces and magnets – what do we already know? (Chocolate bar activity) • Explore forces as 'pushes' and 'pulls' i.e. everyday actions, such as writing with a pen, rowing a boat, pulling a sledge etc, • Investigate friction through a practical experiment, exploring the amount of friction created by different surfaces (running a car on a ramp covered in different materials - explore fair testing, recording information and evaluating results) • Understand the difference between magnetic and non-magnetic materials through a sorting activity • Identify different magnets and predict which magnets are stronger and weaker • Explore the different magnetic poles and whether they attract or repel through a practical activity

Curriculum Long Term Plan: SCIENCE

YEAR 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
Topic	Ancient Egypt	Humans	Anglo Saxons	Electricity	Indian Summer	Animals and their Habitats
Subject Focus	none	Animals, including humans	none	States of matter Electricity	Sound	Living things and their habitats
Programme of Study		<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 	<p>States of matter</p> <ul style="list-style-type: none"> 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 <p>Electricity</p> <ul style="list-style-type: none"> 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 <p>recognise some common conductors and insulators, and associate metals with being good conductors</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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
Working Scientifically		<ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 		<ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 	<ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 	<ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

		<ul style="list-style-type: none"> reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings 		<ul style="list-style-type: none"> reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings 	<ul style="list-style-type: none"> reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings 	<ul style="list-style-type: none"> reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings
Activities/ Skills	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Label parts of the digestive system and learn about their functions Make a simple model of the digestive system Plan a healthy meal Children chart their own teeth and complete a labelled diagram Compare different animals teeth – matching activity Plan and carry out an investigation into tooth decay – which liquids are the worst for our teeth? Evaluate results and use questions raised to plan further investigations Work in groups to create multimedia food webs 	<ul style="list-style-type: none"> 	<p>States of Matter</p> <ul style="list-style-type: none"> Dance – movement based on different states of matter Work scientifically by grouping and classifying a variety of different materials explore the effect of temperature on substances such as chocolate to make chocolate crispy cakes research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into a liquid observe and record evaporation over a period of time, eg, a puddle in the playground <p>Electricity</p> <ul style="list-style-type: none"> electrical safety in the home lighting a lamp in a simple circuit circuit symbols investigating switches and making a switch for a lamp in a model of a house on Lizard Street investigating conductivity –planning an investigation and evaluating results investigating circuits in a model house and relating what they find to home and school 	<ul style="list-style-type: none"> investigate vibration using djembe drums and rice Group drama – act out how sound travels Investigate pitch through making simple instruments Investigate how sound travels – string telephone and soundproofing investigation 	<ul style="list-style-type: none"> Investigate characteristics of living things, present as an explanation text. Habitats – sort features of habitats and creatures that live there. What am I? Quiz using classification keys to determine creature. Create a classification key and test it. Mini beast hunt. Use classification keys to identify species of insect and plants in habitats. Record on map of school grounds; are the school grounds home to a diverse range of insect and plant life? Bar graph to present findings. Detailed pencil sketching of insects and plant life. Research how we can increase the diversity of insect and plant life. Investigate the pond habitat. Using classification keys. Bar graph to present findings. Sketching – compare to land based creatures. What is the same / different? Environmental survey – collect data from school ground and trip to swimming pool. Investigate habitat of Polar Bears – present research as a non-fiction text.
Links	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> D.T. – Plan a healthy meal. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Author: Philip Ridley 'Krinklekrax Artist: Tracey Savage D.T. modelling using a range of materials Dance – movement based on states of matter 	<ul style="list-style-type: none"> Author: Jamila Gavin 'Grandpa Chatterji' – Indian music Drumming lessons 	<ul style="list-style-type: none"> Trip to Yorkshire Wildlife Park – study on arctic habitats. Geography: threat to habitats due to human activity Geography – talk about animals in Uganda by Mrs Brown

Curriculum Long Term Plan: SCIENCE

YEAR 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
Topic	Sense of Belonging	Mayans	Journey into Space	The Vikings	On the Banks of the Humber	On the Banks of the Humber
Subject Focus	Properties and changes of materials	none	Earth and space	Forces	Living things and their habitats	Living things and their habitats
Programme of Study	<ul style="list-style-type: none"> 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 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 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 	<ul style="list-style-type: none"> none 	<p>Earth and space</p> <ul style="list-style-type: none"> 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 <p>Animals, including humans</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age (done in SRE) 	<p>Forces</p> <ul style="list-style-type: none"> 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 recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> describe the life process of reproduction in some plants and animals Describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird 	
Working Scientifically	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations 		<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations 	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations 	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations identifying scientific evidence that has been used to support or refute ideas or arguments 	<ul style="list-style-type: none">

	<ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 		<ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 	<ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 		
Activities/ Skills	<p>Materials and their properties</p> <ul style="list-style-type: none"> Conductors & insulators of heat Dissolving Sieving and filtering Selecting materials for different jobs Change caused by burning Change caused by chemical reaction (bicarb & vinegar) 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Know planets are spherical (Earth is not flat) Geocentric vs Heliocentric (astronomers) Know and name planets in solar system Moon orbits Earth Moon phases Seasons Day and Night International time zones 	<ul style="list-style-type: none"> Balanced and unbalanced forces Gravity; Isaac Newton Forces measured in Newtons Air resistance Water resistance Friction Lever, pivots & pulleys a 	<ul style="list-style-type: none"> Label parts of flower Describe reproduction of flowering plant (pollination) Different methods of seed dispersal and pollination Classifying animals – amphibians, mammals, insects & birds How each of these reproduces/ life cycles. 	<ul style="list-style-type: none">
Links	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Journey into Space 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Waters' Edge trip Plants and animals along the Humber 	<ul style="list-style-type: none">

Curriculum Long Term Plan: SCIENCE

YEAR 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
Topic	Victorians	World War II	Rainforests	Cold Climates	Ancient Greece	Moving On
Subject Focus	Evolution and inheritance Electricity	Light	Living things and their habitats	Living things and their habitats	Animals including humans	Animals including humans
Programme of Study	<p>Evolution and inheritance</p> <ul style="list-style-type: none"> 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 <p>Electricity</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> 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 give reasons for classifying plants and animals based on specific characteristics 	continued	<ul style="list-style-type: none"> identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood 	<ul style="list-style-type: none"> 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
Working Scientifically	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms 	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms 	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms 	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms 	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms 	<ul style="list-style-type: none"> planning different types of 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms

	<p>such as displays and other presentations</p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 	<p>such as displays and other presentations</p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 	<p>such as displays and other presentations</p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 	<p>such as displays and other presentations</p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 	<p>such as displays and other presentations</p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments 	<p>such as displays and other presentations</p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments
Activities/ Skills	<p>Evolution</p> <ul style="list-style-type: none"> Mary Anning Fossils Darwin – survival of the fittest Adaptation – peppered moth <p>Electricity</p> <ul style="list-style-type: none"> Create a variety of circuits with switches Investigate the brightness of bulbs Design an experiment to investigate how the thickness of a wire affects bulb brightness Draw circuits and recognize all symbols 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Create classification key Understand different animal groups Construct food chains/ food webs Adaptations for animals Create your own adapted animal Design an experiment to investigate mould growth on bread in different conditions (linked to rainforest conditions) 	<ul style="list-style-type: none"> continued 	<ul style="list-style-type: none"> create models of heart and lungs explain the function of the heart and blood vessels 	<ul style="list-style-type: none">
Links	<ul style="list-style-type: none"> Constructing motorised vehicles in DT 	<ul style="list-style-type: none"> Victorian link - Thomas Edison 	<ul style="list-style-type: none"> Plants 	<ul style="list-style-type: none"> Animals in cold climates 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> nurse visit (SRE)