



Curriculum plan- Science

<p>EYFS</p>	<p>The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four-Year-Olds and Reception to match the programme of study for science.</p>		
<p>Three and four year olds</p> <p>Communication and Language Understand ‘why’ questions, like: “Why do you think the caterpillar got so fat?”</p> <p>Personal, Social and Emotional Development Make healthy choices about food, drink, activity and toothbrushing.</p> <p>Understanding the World Use all their senses in hands-on exploration of natural materials.</p> <ul style="list-style-type: none"> • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary • Begin to make sense of their own life-story and family’s history. • Explore how things work. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice. 	<p>Reception</p> <p>Communication and Language</p> <ul style="list-style-type: none"> • Learn new vocabulary. • Ask questions to find out more and to check what has been said to them. • Articulate their ideas and thoughts in well-formed sentences. • Describe events in some detail. • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. • Use new vocabulary in different contexts. <p>Personal, Social and Emotional Development Know and talk about the different factors that support their overall health and wellbeing</p> <p>Understanding the World</p> <ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel while they are outside. • Recognise some environments that are different to the one in which they live. • Understand the effect of changing seasons on the natural world around them. 	<p>ELG</p> <p>Communication and Language</p> <p>Listening, Attention and Understanding</p> <ul style="list-style-type: none"> • Make comments about what they have heard and ask questions to clarify their understanding. <p>Personal, Social and Emotional Development</p> <p>Managing Self</p> <ul style="list-style-type: none"> • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. <p>Understanding the World</p> <p>The Natural World</p> <ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures of animals and plants. • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 	



Year Group	Autumn	Spring	Summer
1 and 2 Cycle A	<p>Everyday Materials Which material would be best to make an umbrella? What is a material? What are objects made from? How can I describe an object? Which materials float and sink? Which materials are absorbent? Which material is best for different objects? Working Scientifically:</p> <ul style="list-style-type: none"> Ask simple questions and recognise they can be answered in different ways Perform simple tests Gather and record data to help answer questions Identify and classify Observe closely and use these observations to suggest answers <p>Skills from NC:</p> <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 (wood, plastic, glass, metal, water, 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 <p>Famous Scientists How have scientists throughout history impacted the modern world? Who was Katherine Johnson? Who is Jane Goodhall? Who was Katherine Johnson? Who was Louis Pasteur? Who was Caroline Herschel? Who is Mae Jemison?</p>	<p>Animals including humans How are animals different? What is a living thing? What is the difference between an invertebrate and a vertebrate? Which animal families are invertebrates? Which animal families are vertebrates? What are the differences between mammals and birds? What types of food do living things eat? Working Scientifically:</p> <ul style="list-style-type: none"> Ask simple questions and recognise they can be answered in different ways Gather and record data to help answer questions Identify and classify <p>Skills from NC:</p> <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 carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) <p>Animals including humans Why do humans need their 5 senses? What are the 5 senses? Which part of the body is associated with the sense of smell? Which part of the body is associated with the sense of hearing? Which part of the body is associated with the sense of sight? Which part of the body is associated with the sense of touch?</p>	<p>Seasonal Change How does weather change in different seasons? Can you identify daily weather patterns in the United Kingdom? Can you describe the weather in different seasons? How do trees change across the seasons? What do weather forecasts show? (rainfall, wind direction) How can the weather be dangerous? What is hibernation? Working Scientifically:</p> <ul style="list-style-type: none"> Ask simple questions and recognise they can be answered in different ways Gather and record data to help answer questions Identify and classify Observe closely using simple equipment <p>Skills from the NC:</p> <ul style="list-style-type: none"> Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies <p>Environmental Science What can we do to help our planet? Can I measure melting ice in a comparative experiment? Can I sort items for recycling based on their materials? How do I become an energy expert? What can I find out about the rainforest? How can I save water? How can I protect endangered animals? Working Scientifically:</p> <ul style="list-style-type: none"> Ask simple questions and recognise they can be answered in different ways Observe closely using simple equipment



	<p>Working Scientifically:</p> <ul style="list-style-type: none"> • Ask simple questions and recognise they can be answered in different ways • Observe closely using simple equipment <p>Skills from NC:</p> <ul style="list-style-type: none"> • Using observations and ideas to answer questions 	<p>Which part of the body is associated with the sense of taste?</p> <p>Working Scientifically:</p> <ul style="list-style-type: none"> • Ask simple questions and recognise they can be answered in different ways • Gather and record data to help answer questions • Identify and classify • Observe closely using simple equipment <p>Skills from NC:</p> <ul style="list-style-type: none"> • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense 	<ul style="list-style-type: none"> • Perform simple tests • Gather and record data to help answer questions • Identify and classify <p>Skills From NC:</p> <ul style="list-style-type: none"> • Using observations and ideas to answer questions
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Curriculum Plan – Science

Year Group	Autumn	Spring	Summer
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<p>1 and 2 Cycle B</p>	<p>Everyday materials Why are certain materials used for certain things? Which materials are waterproof? What material could be used to build a wall? Is the wall I've built waterproof? Which materials can withstand strong winds? Will the wall I've built withstand strong winds? What is a mixture? Ask simple questions and recognise that they can be answered in different ways</p> <ul style="list-style-type: none"> • Observe closely using simple equipment • Perform simple tests • Gather and record data to help answer questions • Identify and classify <p>Skills from NC:</p> <ul style="list-style-type: none"> • Distinguish between an object and the material from which it was made • Describe the simple physical properties of a variety of everyday materials and group materials based on these properties • Identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses <p>Everyday materials How can materials be changed? Which material should I use? How can the shape of solid objects be changed? Which material is the stretchiest? Which materials are absorbent? What is the different between raw and synthetic materials? Why do we change materials?</p>	<p>Plants How do plants grow? How do I plant a bean? What types of plants grow in the wild? What is the difference between deciduous and evergreen trees? What are the parts of trees and plants called? What changes occur to a tomato plant? What changes have occurred to my bean plant?</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Observe closely using simple equipment • Perform simple tests • Gather and record data to help answer questions • Identify and classify <p>Skills from NC:</p> <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 • Identify and describe the basic structure of a variety of common flowering plants, including trees <p>Animals including humans What do animals need to survive? Can you describe what animals, including humans need to survive? Can you sort and match young animals and their adults? Can you explore how humans change as they grow into adults? Can you explore how butterflies change as they grow into adults?</p>	<p>Living things and their habitats How does a habitat meet the needs of a living thing? What are the characteristics of living things? What is a habitat? What is a microhabitat? What lives in the desert habitat? What lives in a rainforest habitat? Can a city be a habitat?</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Observe closely using simple equipment • Gather and record data to help answer questions • Identify and classify <p>Skills from NC:</p> <ul style="list-style-type: none"> • Explore and compare the difference 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 the basic needs of different kinds of animals or plants and how they depend on each other • Identify and name a variety of plants and animals in their habitats, including micro-habitats • Describe how animals obtain their food from plants and other animals using the idea of a simple food chain, and identify and name different sources of food <p>Animals including humans What do humans need to do to stay healthy? What are the different parts of the human body? Why is exercise so important? What is a healthy diet?</p>
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	<ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Observe closely using simple equipment • Perform simple tests • Gather and record data to help answer questions • Identify and classify <p>Skills From NC:</p> <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 stretching 	<p>Can you explore how frogs change as they grow into adults?</p> <p>Can you explore how flies change as they grow into adults?</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Gather and record data to help answer questions • Identify and classify <p>Skills from NC:</p> <ul style="list-style-type: none"> • Notice that animals, including humans, have offspring which grow into adults • Find out and describe the basic needs of animals for survival (food, water, air) 	<p>How do our bodies change as we get older?</p> <p>Why is it important to be hygienic?</p> <p>Whose job is it to keep us healthy?</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Gather and record data to help answer questions • Identify and classify <p>Skills from NC:</p> <ul style="list-style-type: none"> • Find out and describe the basic needs of animals, including humans, for survival (food, water, air) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene
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Year Group	Autumn	Spring	Summer
3 and 4 Cycle A	<p>Forces and magnets How does a magnet work? What are non-contact forces? What are magnets? How does a compass work? How can we see a magnetic field? How can we tell if a material is magnetic or not? What are some uses of magnetic materials?</p> <p>Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests -Make systematic and careful observations and take accurate measurements using standard units, using a range of equipment -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables -Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Skills from NC: -compare how things move on different surfaces -notice that some forces need contact between two objects, but magnetic forces act at a distance -observe how magnets attract or repel each other and attract some materials but 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</p>	<p>Animals including Humans Why do animals have skeletons? What are the organs and why do we need them? What are the functions of the human skeleton? What are the major bones in the human body? How do muscles work with bones to create movement? How does human anatomy compare with other animals? How is oxygen transported around our bodies?</p> <p>Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests - Gather, record, classify and present data in a variety of ways to help in answering questions - Identify similarities, differences or changes related to simple scientific ideas and processes - Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Skills from NC: -Identify that humans and some animals have skeletons and muscles for support, protection and movements</p> <p>Animals including Humans What types of nutrition do different animals need? What are the different types of nutrients provided from food? What are the nutritional values of different foods?</p>	<p>Plants What do our plants need to stay healthy? What conditions could we change to investigate the growth of a plant? What are the parts and functions of a plant? What are the parts and functions of a flower? What are the parts of a plant's life cycle? How does a plant transport water? How do plants adapt to different environments?</p> <p>Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests -Make systematic and careful observations and take accurate measurements using standard units, using a range of equipment - Identify similarities, differences or changes related to simple scientific ideas and processes -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables -Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Skills from NC: -Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves, 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</p>



<p>-predict whether two magnets will attract or repel each other, depending on which way the poles are facing</p> <p>Rocks Are all rocks the same? How is igneous rock formed? How is metamorphic rock formed? How is sedimentary rock formed? How can we identify different types of rock? How do the rocks on our Earth's surface change? What are the steps in the rock cycle? Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests -Make systematic and careful observations and take accurate measurements using standard units, using a range of equipment -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables -Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Skills from NC: -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</p>	<p>What are the different food groups? Why is a balanced diet needed to stay healthy? Which foods do different animals eat? How can I carry out an investigation to find out popular food for pets? Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests - Gather, record, classify and present data in a variety of ways to help in answering questions - Identify similarities, differences or changes related to simple scientific ideas and processes - Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Skills from NC: -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</p>	<p>- investigate the way in which water is transported in plants -Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p> <p>Light How are shadows formed? What is light? How can we see objects? What is the difference between night and day? Which materials are reflective? How are shadows formed? How can you change the size of a shadow? Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests -Make systematic and careful observations and take accurate measurements using standard units, using a range equipment - Identify similarities, differences or changes related to simple scientific ideas and processes -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables -Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Skills from NC: -recognise that they need light in order to see things and that the dark is the absence of light -notice that light is reflected from surfaces -recognise that light from the sun can be dangerous and there are ways to protect their eyes</p>
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			<p>-Recognise that shadows are formed when the light source is blocked by a solid object</p> <p>-find patterns in the way that the size of shadows change</p>
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Year Group	Autumn	Spring	Summer
3 and 4 Cycle B	<p>Living things and their habitats <i>Why do animals live where they do?</i> What is an adaptation? How are organisms adapted to hot environments? How are organisms adapted to cold environments? What adaptations do nocturnal animals have? How are organisms adapted to live under water? How are organisms adapted to live in the deep sea? <i>Working scientifically:</i> -ask relevant questions and use different types of scientific enquiries to answer them -set up simple practical enquiries, comparative and fair tests</p>	<p>Animals including humans <i>How do humans digest their food?</i> What are the different parts of the human digestive system? What are the functions of the digestive system? What are the different types of teeth and their functions? What are the causes of tooth decay? How can I make conclusions following a scientific enquiry? How are food chains constructed? <i>Working scientifically:</i> -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests - Gather, record, classify and present data in a variety of ways to help in answering questions</p>	<p>Sound <i>How are sounds made and heard?</i> What is sound? How are different sounds produced? What are pitch and frequency? What do we mean by amplitude of sound? What is acoustics? How can you make a string telephone? <i>Working scientifically:</i> -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests -Make systematic and careful observations and take accurate measurements using standard units, using a range equipment - Identify similarities, differences or changes related to simple scientific ideas and processes</p>



<p>- gather, record, classify and present data in a variety of ways to help in answering questions - identify differences, similarities or changes related to simple scientific ideas and processes - report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>Skills from NC: -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</p> <p>States of matter How does water look as a solid, liquid and gas? What are the properties of solids, liquids and gases? How do particles behave inside solids, liquids and gases? What happens when you heat or cool each state of matter? What are changes of state and why do they take place? What are melting points and boiling points? Which substances do not fit into one state of matter?</p> <p>Working scientifically: -ask relevant questions and use different types of scientific enquiries to answer them -set up simple practical enquiries, comparative and fair tests -make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p>	<p>- Identify similarities, differences or changes related to simple scientific ideas and processes - Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Skills from NC: -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</p> <p>Animals including humans Who is top of the food chain? What is an ecosystem? How do we classify the diets of animals? Why are producers so important? How do we construct a food chain? How do we construct a food web? What can cause disruptions to food webs?</p> <p>Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests - Gather, record, classify and present data in a variety of ways to help in answering questions - Identify similarities, differences or changes related to simple scientific ideas and processes - Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Skills from NC: - construct and interpret a variety of food chains, identifying producers, predators and prey</p>	<p>-Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables -Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Skills from NC - 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</p> <p>Electricity Which materials will allow electricity to pass through? What is static electricity? What are the different components in an electrical circuit? What are circuit diagrams? What are insulators and conductors? What happens in a circuit when we change the components? How much do we rely on electricity?</p> <p>Working scientifically: -Ask relevant questions and use different types of scientific enquiries to answer them -Set up simple practical enquiries, comparative and fair tests -Make systematic and careful observations and take accurate measurements using standard units, using a range of equipment</p>
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	<ul style="list-style-type: none"> -record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions -use straightforward scientific evidence to answer questions or to support their findings <p>Skills from NC</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 		<ul style="list-style-type: none"> -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables -Use straightforward scientific evidence to answer questions or support findings -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions <p>Skills from NC:</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 -recognise some common conductors and insulators, and associate metals with being good conductors
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Year Group	Autumn	Spring	Summer
5 and 6 Cycle A	<p>Animals including humans What happens as humans get older? What are the stages of human development? How do babies develop? What are the main changes which take place during puberty? What changes take place during old age? What is a gestation period? How do gestation periods compare?</p> <p>Working scientifically: - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - identify scientific evidence that has been used to support or refute ideas or arguments - use test results to make predictions to set up further comparative and fair tests</p> <p>Skills from NC: -describe the changes as humans develop to old age</p> <p>Living things and their habitats How do the life cycles of animals differ? Why do plants have flowers? How do you clone a potato?</p>	<p>Properties and changes of materials Which changes can be reversed? What makes something pure? What makes something a mixture? What is a formulation? How can we separate mixtures into pure substances? How can we separate a mixture of sand, salt and water? How can we separate river water into separate substances?</p> <p>What happens during a state change? What is a physical change and how can we identify them? What is a chemical reaction and how can we identify them? What is the difference between chemical and physical changes? What can we do to investigate chemical reactions? What happens when we place metals into acid?</p> <p>Working scientifically: - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<p>Light Can light bend round corners? What is light and where does it come from? What is reflection and how can we use it? What is refraction and how can we use it? How do we see light? Where do different colours come from? What are some uses of light?</p> <p>Working scientifically: - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - identify scientific evidence that has been used to support or refute ideas or arguments - report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - use test results to make predictions to set up further comparative and fair tests</p> <p>Skills from NC - recognise that light appears to travel in straight lines</p>



	<p>How does the life cycle of an ant compare to an amphibian? Are the life cycles of all mammals the same? Why do birds lay eggs? How do life cycles compare across the animal kingdom?</p> <p>Working scientifically:</p> <ul style="list-style-type: none"> - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - identify scientific evidence that has been used to support or refute ideas or arguments - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</p> <ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - identify scientific evidence that has been used to support or refute ideas or arguments - report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</p> <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"> - 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>Electricity</p> <p>How does voltage affect the brightness of a bulb?</p> <p>What is electricity?</p> <p>What are circuits?</p> <p>How are symbols used within circuits?</p> <p>How can the brightness of a bulb be changed?</p> <p>How can different wires affect the brightness of a bulb?</p> <p>How can a circuit create a simple device?</p> <p>Working scientifically:</p> <ul style="list-style-type: none"> - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - identify scientific evidence that has been used to support or refute ideas or arguments - report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - use test results to make predictions to set up further comparative and fair tests
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			<p>Skills from NC:</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
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Year Group	Autumn	Spring	Summer
5 and 6 Cycle B	<p>Earth and space</p> <p>Why is time split into night and day? What are solar and lunar eclipses? What is the solar system? How do the planets in the solar system differ? What are stars and star constellations? What is the universe and what is it made from? What do astronomers do?</p> <p>Working scientifically: - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - record data and results of increasing complexity using scientific diagrams and</p>	<p>Animals including Humans</p> <p>What is the circulatory system and how should we take care of it? What are the parts of the circulatory system? What are the functions of the parts of the circulatory system? How are nutrients and water carried through the system?</p> <p>Working scientifically: - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<p>Forces</p> <p>What are the forces affecting everyday objects? What are forces? How can we measure the size of forces? What are contact forces? What are non-contact forces? Which factors affect an object's ability to float? What impact do leavers and pulleyshave on forces?</p> <p>Working scientifically: - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p>



	<p>labels, classification keys, tables, scatter graphs, bar and line graphs</p> <ul style="list-style-type: none"> - identify scientific evidence that has been used to support or refute ideas or arguments - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</p> <ul style="list-style-type: none"> - describe the movement of the Earth, and other planets, relative to the Sun - 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>Evolution</p> <p>What can fossils tell us about the way animals have adapted over time?</p> <p>What is the theory of evolution?</p> <p>How do fossils provide evidence for evolution?</p> <p>What are the different animal kingdoms?</p> <p>Which organism lived during each era of time?</p> <p>What impact have humans had on plants and animals?</p> <p>What impact are humans likely to have on life in the future?</p> <p>Working scientifically:</p> <ul style="list-style-type: none"> - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 	<ul style="list-style-type: none"> - identify scientific evidence that has been used to support or refute ideas or arguments - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</p> <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 - recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function <p>Animals including Humans</p> <p>How are nutrients transported around the body?</p> <p>What are the key parts of a healthy diet?</p> <p>Why do people with different lifestyles need different diets?</p> <p>What affect does exercise have on the muscles?</p> <p>What happens to the circulatory system during exercise?</p> <p>What are medicinal drugs?</p> <p>What are nicotine and alcohol?</p> <p>Working scientifically:</p> <ul style="list-style-type: none"> - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - identify scientific evidence that has been used to support or refute ideas or arguments - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</p> <ul style="list-style-type: none"> - describe the ways in which nutrients and water are transported within animals, including humans 	<ul style="list-style-type: none"> - take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - identify scientific evidence that has been used to support or refute ideas or arguments - report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</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> <p>How can living things be classified?</p> <p>How can we classify plants and animals?</p> <p>What is the Linnaean system?</p> <p>Which specific characteristics can we observe to aid classification?</p> <p>What is a microorganism?</p> <p>What are the different types of microorganisms?</p> <p>What are the characteristics of our local habitats?</p> <p>Working scientifically:</p>
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	<ul style="list-style-type: none"> - identify scientific evidence that has been used to support or refute ideas or arguments - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</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 		<ul style="list-style-type: none"> - plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - identify scientific evidence that has been used to support or refute ideas or arguments - report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - use test results to make predictions to set up further comparative and fair tests <p>Skills from NC:</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
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