

SCIENCE- 2 YEAR OVERVIEW

WORKING SCIENTIFICALLY		
YEAR 1 & 2	YEAR 3 & 4	YEAR 5 & 6
<ul style="list-style-type: none"> I know how to ask simple scientific questions. I know how to use simple equipment to make observations. I know how to carry out simple tests. I know how to identify and classify things. I know how to explain to others what I have found out. I know how to use simple data to answer questions 	<ul style="list-style-type: none"> I know how to ask relevant scientific questions. I know how to use observations and knowledge to answer scientific questions. I know how to set up a simple enquiry to explore a scientific question. I know how to set up a test to compare two things. I know how to set up a fair test and explain why it is fair. I make careful and accurate observations, including the use of standard units. I know how to use equipment, including thermometers and data loggers to make measurements. I gather, record, classify and present data in different ways to answer scientific questions. I know how to use diagrams, keys, bar charts and tables; using scientific language. I know how to use findings to report in different ways, including oral and written explanations, presentation. I know how to draw conclusions and suggest improvements. I know how to make a prediction with a reason. I know how to identify differences, similarities and changes related to an enquiry. 	<ul style="list-style-type: none"> I know how to plan different types of scientific enquiry. I know how to control variables in an enquiry. I measure accurately and precisely using a range of equipment. I know how to record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. I use the outcome of test results to make predictions and set up a further comparative and fair tests. I report findings from enquiries in a range of ways. I know how to explain a conclusion from an enquiry. I explain causal relationships in an enquiry. I know how to relate the outcome from an enquiry to scientific knowledge in order to state whether evidence supports or refutes an argument or theory. <ul style="list-style-type: none"> I read, spell and pronounce scientific vocabulary accurately

ODD YEARS 23-24 25-26	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 1 and 2	<u>Uses of everyday Materials Y2</u> <ul style="list-style-type: none"> I identify and name a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard. I know why a material might or might not be used for a specific job. I know how materials can be changed by squashing, bending, twisting and stretching. 	<u>Living things and their habitats Y2-</u> <ul style="list-style-type: none"> I identify things that are living, dead and never lived. I know how a specific habitat provides for the basic needs of things living there (plants and animals). I identify and name plants and animals in a range of habitats. 	<u>Plants Y1- Structure of plants and sorting plants</u> <ul style="list-style-type: none"> I know and name a variety of common wild and garden plants. I know and name the petals, stem, leaves and root of a plant. I know and name the roots, 	<u>Animals including humans Y1- Human and animal bodies and the senses</u> <ul style="list-style-type: none"> I know and name a variety of animals including fish, amphibians, reptiles, birds and mammals. I classify and know animals by what they eat (carnivore, herbivore and omnivore). I know how to sort animals into categories (including fish, amphibians, reptiles, birds and mammals). I know how to sort living and non-living things. 		

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		<ul style="list-style-type: none">• I match living things to their habitat.• I know how animals find their food.• I name some different sources of food for animals.• I know and can explain a simple food chain.	trunk, branches and leaves of a tree.	<ul style="list-style-type: none">• I know how to name the parts of the human body that I can see.• I know how to link the correct part of the human body to each sense.	
	<p style="text-align: center;"><u>Seasonal changes Y1</u></p> <ul style="list-style-type: none">• I observe and know about the changes in the seasons.• I name the seasons and know about the type of weather in each season				
Year 3 and 4	<p><u>Light Y3</u></p> <ul style="list-style-type: none">• I know what dark is (the absence of light).• I know that light is needed in order to see.• I know that light is reflected from a surface.• I know and demonstrate how a shadow is formed.• I explore shadow size and explain the changes.• I know the danger of direct sunlight and describe how to keep protected.	<p><u>Animals including humans-Food and skeletons Y3</u></p> <ul style="list-style-type: none">• I know about the importance of a nutritious, balanced diet.• I know how nutrients, water and oxygen are transported within animals and humans.• I know about the skeletal system of a human.• I know about the muscular system of a human.• I know about the purpose of the skeleton in humans and animals	<p><u>Electricity Y4</u></p> <ul style="list-style-type: none">• I identify and name appliances that require electricity to function.• I construct a series circuit.• I identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers).• I know how to draw a circuit diagram.• I predict and test whether a lamp will light within a circuit.• I know the function of a switch in a circuit.• I know the difference between a conductor and an insulator; giving examples of each.	<p><u>States of Matter Y4-Solids, liquids and gases</u></p> <ul style="list-style-type: none">• I group materials based on their state of matter (solid, liquid, gas).• I know how some materials can change state.• I explore how materials change state.• I measure the temperature at which materials change state.• I know about the water cycle.• I know the part played by evaporation and condensation in the water cycle.	<p><u>Sound Y4</u></p> <ul style="list-style-type: none">• I know how sound is made.• I know how sound travels from a source to our ears.• I know how sounds are made, associating some of them with vibrating.• I know the correlation between pitch and the object producing a sound.• I know the correlation between the volume of a sound and the strength of the vibrations that produced it.• I know what happens to a sound as it travels away from its source.
Year 5 and 6	<p><u>Living things and their habitats-Life cycles of mammals and reproduction Y5</u></p> <ul style="list-style-type: none">• I know the life cycle of different living things, e.g. mammal, amphibian, insect bird.		<p><u>Living things and their habitats Y6-Classification</u></p> <ul style="list-style-type: none">• I classify living things into	<p><u>Electricity Y6</u></p> <ul style="list-style-type: none">• I know how the number & voltage of cells in a circuit links to the brightness of a	<p><u>Forces Y5</u></p> <ul style="list-style-type: none">• I know the life cycle of different living things, e.g. mammal, amphibian, insect bird.• I know the differences between different life

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	<ul style="list-style-type: none"> I know the differences between different life cycles. I know the process of reproduction in plants. I know the process of reproduction in animals. 	<p>broad groups according to observable characteristics and based on similarities & differences.</p> <ul style="list-style-type: none"> I know how living things have been classified. I give reasons for classifying plants and animals in a specific way. 	<p>lamp or the volume of a buzzer.</p> <ul style="list-style-type: none"> I compare and give reasons for why components work and do not work in a circuit. I draw circuit diagrams using correct symbols. 	<p>cycles.</p> <ul style="list-style-type: none"> I know the process of reproduction in plants. I know the process of reproduction in animals.
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EVEN YEARS 24-25 26-27	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 1 and 2	<u>Everyday Materials Y1</u> <ul style="list-style-type: none">I distinguish between an object and the material it is made from.I know the materials that an object is made from.I know the difference between wood, plastic, glass, metal, water and rock.I know about the properties of everyday materials.I group objects based on the materials they are made from.		<u>Plants Y2- Seeds, bulbs and what plants need to grow</u> <ul style="list-style-type: none">I know how seeds and bulbs grow into plants.I know what plants need in order to grow and stay healthy (water, light & suitable temperature).		<u>Animals including humans Y2- Human and animal needs and diet</u> <ul style="list-style-type: none">I know the basic stages in a life cycle for animals, including humans.<ul style="list-style-type: none">I know what animals and humans need to survive.I know why exercise, a balanced diet and good hygiene are important for humans	
	<u>Seasonal changes Y1</u> <ul style="list-style-type: none">I observe and know about the changes in the seasons.I name the seasons and know about the type of weather in each season					
Year 3 and 4	<u>Rocks Y3</u> <ul style="list-style-type: none">I compare and group rocks based on their appearance and physical properties, giving a reason.	<u>Forces and magnets Y3</u> <ul style="list-style-type: none">I know about and describe how objects move on different surfaces.I know how some forces	<u>Animals including Humans Y4- Digestive system, teeth and food chains</u> <ul style="list-style-type: none">I identify and name the parts of the human		<u>Living things and their habitats Y4- classification</u> <ul style="list-style-type: none">I group living things in	<u>Plants Y3-</u> <ul style="list-style-type: none">Function, requirements and life cycle I know the function of different parts of flowing plants and trees.I know what different plants need to help them survive.

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	<ul style="list-style-type: none">• I know how fossils are formed.• I know how soil is made.• I know about and explain the difference between sedimentary, metamorphic and igneous rock.	<p>require contact and some do not, giving examples.</p> <ul style="list-style-type: none">• I know about and explain how objects attract and repel in relation to objects and other magnets.• I predict whether objects will be magnetic and carry out an enquiry to test this out.• I know how magnets work.• I predict whether magnets will attract or repel and give a reason.	<p>digestive system.</p> <ul style="list-style-type: none">• I know the functions of the organs in the human digestive system.• I identify and know the different types of teeth in humans.• I know the functions of different human teeth.• I use food chains to identify producers, predators and prey.• I construct food chains to identify producers, predators and prey.	<p>different ways.</p> <ul style="list-style-type: none">• I use classification keys to group, identify and name living things.• I create classification keys to group, identify and name living things (for others to use).• I know how changes to an environment could endanger living things.	<ul style="list-style-type: none">• I know how water is transported within plants.• I know the plant life cycle, especially the importance of flowers.	
Year 5 and 6	<p><u>Evolution and Inheritance Y6</u></p> <ul style="list-style-type: none">• I know how the Earth and living things have changed over time.• I know how fossils can be used to find out about the past.• I know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).• I know how animals and plants are adapted to suit their environment.• I link adaptation over time to evolution.• I know about evolution and	<p><u>Properties and changes of materials Y5-</u></p> <ul style="list-style-type: none">• I compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets).• I know how a material dissolves to form a solution; explaining the process of dissolving.• I know and show how to recover a substance from a solution.• I know how some materials can be separated.• I demonstrate how materials can be separated (e.g. through	<p><u>Animals including humans Y6- Circulation</u></p> <ul style="list-style-type: none">• Identify and name the main parts of the human circulatory system.• I know the function of the heart, blood vessels and blood.• I know the impact of diet, exercise, drugs and life style on health.• I know the ways in which nutrients and water are transported in animals, including humans.	<p><u>Light Y6</u></p> <ul style="list-style-type: none">• I know how light travels.• I know and demonstrate how we see objects.• I know why shadows have the same shape as the object that casts them.• I know how simple optical instruments work, e.g. periscope, telescope,	<p><u>Earth and Space Y5</u></p> <ul style="list-style-type: none">• I know about and explain the movement of the Earth and other planets relative to the Sun.• I know about and explain the movement of the Moon relative to the Earth.• I know and demonstrate how night and day are created.• I describe the Sun, Earth and Moon (using the term spherical).	<p><u>Animals including humans Y5- Changes to old age</u></p> <ul style="list-style-type: none">• I create a timeline to indicate stages of growth in humans.

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	can explain what it is.	<p>filtering, sieving and evaporating).</p> <ul style="list-style-type: none"> • I know and can demonstrate that some changes are reversible and some are not. • I know how some changes result in the formation of a new material and that this is usually irreversible. • I know about reversible and irreversible changes. • I give evidenced reasons why materials should be used for specific purposes. 		binoculars, mirror, magnifying glass etc.		
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