

Year Group	Working Scientifically	Biology	Chemistry	Physics
3	<ul style="list-style-type: none"> - I can ask relevant scientific questions. - I know how to use observations and knowledge to answer scientific questions. - I can 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 know how to make careful and accurate observations, including the use of standard units. - I know how to use equipment to make measurements. (This could be data loggers, thermometers etc.) - I know how to gather, record, classify and present data in different ways to answer scientific questions. - I know how to use diagrams, keys, bar charts and tables; 	<p><u>Plants</u></p> <ul style="list-style-type: none"> - I know the function of different parts of flowering plants. - I know what different plants need to help them survive. - I know how water is transported within plants. - I know the importance of flowering plants and their functions such as pollination and seed dispersal. <p><u>Animals, including humans</u></p> <ul style="list-style-type: none"> - I know about the importance of a nutritious, balanced diet. - I know that animals, including humans, cannot make their own food; they get nutrition from what they eat. - I know about the muscular system of a human. - I know about the purpose of the skeleton in humans and animals. 	<p><u>Rocks</u></p> <ul style="list-style-type: none"> - I can compare and group rocks based on their appearance and physical properties, giving a reason. - I know how fossils are formed. - I know how soil is formed. - I know about and explain the differences between sedimentary, igneous and metamorphic rock. 	<p><u>Light</u></p> <ul style="list-style-type: none"> - I know what dark and light is. - 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 sizes and explain the changes. - I know the danger of direct sunlight and describe how to keep protected. <p><u>Forces and Magnets</u></p> <ul style="list-style-type: none"> - I know about and describe how objects move on different surfaces. - I know that some forces need contact and some do not. - I know and can

	<p>using scientific language.</p> <ul style="list-style-type: none"> - I know how to use findings to report in different ways, including oral and written explanations, presentations. - 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. 			<p>explain how objects attract and repel in relation to other objects and other magnets.</p> <ul style="list-style-type: none"> - I predict whether objects will be magnetic and can investigate this. - I know how magnets work. - I predict whether magnets will attract or repel and give a reason.
4	<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 fair test to compare things. - I know how to set up a fair test and explain why it is fair. - I make careful and accurate observations, including the 	<p><u>Living things and their habitats</u></p> <ul style="list-style-type: none"> - I group living things in different ways. - 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. <p><u>Animals, including humans</u></p> <ul style="list-style-type: none"> - I identify and name the 	<p><u>States of matter</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 	<p><u>Sound</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

	<p>use of standard units.</p> <ul style="list-style-type: none"> - I know how to use equipment, including thermometers and data loggers to make measurements. - I gather, record, classify and present data in a variety of 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 and presentations. - 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. 	<p>parts of the human 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>by evaporation and condensation in the water cycle.</p>	<p>the volume of a sound and the strength of the vibrations that produced it.</p> <p><u>Electricity</u></p> <ul style="list-style-type: none"> - I identify and name appliances that require electricity to work. - I can construct a series circuit. - I identify and name the components in a series circuit (cells, wires, buzzers, bulbs and switches). - I know how to draw a circuit diagram. - I can 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.
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<p>5</p>	<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 casual 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. - I read, spell and pronounce 	<p><u>Living things and their habitats</u></p> <ul style="list-style-type: none"> - I know the life cycle of different living things e.g. mammal, amphibian, reptile, insect, bird, fish - I know the differences between different life cycles. - I know the process of reproduction in plants. - I know the process of reproduction in different animals. <p><u>Animals, including humans</u></p> <ul style="list-style-type: none"> - I create a timeline to indicate stages of growth in humans. 	<p><u>Properties and changes of materials</u></p> <ul style="list-style-type: none"> - I compare and group materials based on their properties e.g. hardness, solubility, transparency, conductivity (thermal and electrical), 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 filtering, sieving and evaporating. - 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 	<p><u>Earth and Space</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 the Moon (using the term spherical). <p><u>Forces</u></p> <ul style="list-style-type: none"> - I know what gravity is and its impact on our lives. - I identify and know the effect of air resistance. - I identify and know the effect of water resistance. - I identify and know the effect of friction.
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	scientific vocabulary accurately.		material and that this is usually irreversible. <ul style="list-style-type: none"> - I know about reversible and irreversible changes. - I give evidenced reasons why materials should be used for specific purposes. 	<ul style="list-style-type: none"> - I explain how levers, pulleys and gears allow a smaller force to have a greater effect.
6	<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. 	<p><u>Living things and their habitats</u></p> <ul style="list-style-type: none"> - I classify living things into broad groups according to observable characteristics and based on similarities and differences. - I know how living things have been classified. - I give reasons for classifying plants and animals in a specific way. <p><u>Animals, including humans</u></p> <ul style="list-style-type: none"> - I 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 	No content.	<p><u>Light</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, binoculars, mirror, magnifying glass etc. <p><u>Electricity</u></p> <ul style="list-style-type: none"> - I know how the number and voltage of cells in a circuit links to the

	<ul style="list-style-type: none"> - I explain casual 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. - I read, spell and pronounce scientific vocabulary accurately. 	<p>style on health.</p> <ul style="list-style-type: none"> - I know the ways in which nutrients and water are transported in animals, including humans. <p><u>Evolution and Inheritance</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 adaption over time to evolution. - I know about evolution and can explain what it is. 		<p>brightness of a lamp of 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.
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