

Year 6 Units

	Working Scientifically (to be covered during all units)	Animals including humans	Living things and their habitats	Electricity	Light	Evolution and inheritance
Children working below age-related expectations will be:	<ul style="list-style-type: none"> ■ planning different types of scientific enquiries to answer questions, including controlling variables where necessary ■ taking measurements, using a range of scientific equipment ■ recording data and results of using diagrams and labels, classification keys, tables and bar charts ■ using test results to make predictions ■ reporting and presenting findings from enquiries, including conclusions and explanations, in oral and written forms such as displays and other presentations ■ identifying one piece of scientific evidence that has been used to support or refute ideas 	<ul style="list-style-type: none"> ■ identify and name the main parts of the human circulatory system, and recognise the functions of the heart, blood vessels and blood ■ recognise the effect of diet, exercise, drugs and lifestyle on the way their bodies function ■ describe in simple terms the ways in which nutrients and water are transported within animals, including humans. 	<ul style="list-style-type: none"> ■ describe how living things are classified into broad groups according to given common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals ■ give simple reasons for classifying plants and animals based on specific characteristics 	<ul style="list-style-type: none"> ■ Associate either the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit ■ Compare variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches ■ Use some 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 ■ Explain that objects are seen because they give out or reflect light into the eye ■ explain that we see things because light travels ■ explain why shadows have the same shape as the objects that cast them because of the absence of light 	<ul style="list-style-type: none"> ■ recognise that living things have changed appearance over time and that fossils provide information about living things that inhabited the Earth millions of years ago ■ recognise that living things produce offspring that are a mixture of both parents ■ identify how a limited range of animals and plants are adapted to suit their environment in different ways
Children working at age-related expectations will:	<p>During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <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 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"> ■ 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 ■ describe the ways in which nutrients and water are transported within animals, including humans. 	<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. 	<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. 	<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.
Children working above age-related expectations will:	<ul style="list-style-type: none"> ■ independently suggesting and creating different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ■ taking measurements by choosing which scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate ■ choosing how to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ■ using test results and background knowledge links to make predictions to set up further comparative and fair tests ■ reporting and presenting findings from enquiries using scientific language and background knowledge, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ■ identifying and justify with scientific evidence that has been used to support or refute ideas or arguments. 	<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 and make a connection between their functions ■ justify and explain 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 and make links to the heart and its function. 	<ul style="list-style-type: none"> ■ describe how living things are classified into broad and narrow groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals and make links between different species. ■ Justify reasons for classifying plants and animals based on specific characteristics. 	<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 and give an explanation. ■ Compare and explain 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 with accuracy 	<ul style="list-style-type: none"> ■ recognise that light appears to travel in straight lines and what that means for real-world applications such as fibre optics ■ 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 and begin to think about how colour is created. ■ 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 and construct accurate ray diagrams to explain their thinking. ■ use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them and link this to why shadows have different resolutions as they move closer to the light source. 	<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. Understand that collections of fossils are key evidence for the theory of natural selection alongside the work of scientists such as Charles Darwin ■ recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. These are examples of genetic variation and are key to the theory of evolution. ■ Identify and explain in scientific terms how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.