

Science Curriculum Map – Year 6



Year 1	Main Objectives of Unit:	Key Learning:	Working Scientifically Skill Focus:	By the end of this topic, the children will know this vocabulary
Autumn 1	<p><u>Evolution and inheritance:</u></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><u>Evolution and inheritance:</u></p> <ul style="list-style-type: none"> • All living things have offspring of the same kind, as features in the offspring are inherited from the parents. Due to sexual reproduction, the offspring are not identical to their parents and vary from each other. • Plants and animals have characteristics that make them suited (adapted) to their environment. If the environment changes rapidly, some variations of a species may not suit the new environment and will die. If the environment changes slowly, animals and plants with variations that are best suited survive in greater numbers to reproduce and pass their characteristics on to 	<p><u>Evolution and inheritance:</u></p> <ul style="list-style-type: none"> • Identifying scientific evidence that has been used to support or refute ideas or arguments. • 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. 	<p><u>Evolution and inheritance:</u> Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils</p>

		<p>their young. Over time, these inherited characteristics become more dominant within the population. Over a very long period of time, these characteristics may be so different to how they were originally that a new species is created. This is evolution.</p> <ul style="list-style-type: none"> • Fossils give us evidence of what lived on the Earth millions of year ago and provide evidence to support the theory of evolution. More recently, scientists such as Darwin and Wallace observed how living things adapt to different environments to become distinct varieties with their own characteristics. 		
Autumn 2	<p><u>Light – Seeing Light</u></p> <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 	<p><u>Light – Seeing Light</u></p> <ul style="list-style-type: none"> • Light appears to travel in straight lines, and we see objects when light from them goes into our eyes. The light may come directly from light sources, but for other objects some light must 	<p><u>Light – Seeing Light</u></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 	<p><u>Light – Seeing Light</u></p> <p>Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous, straight lines, light rays.</p>

	<p>they give out or reflect light into the eye.</p> <ul style="list-style-type: none"> • 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>be reflected from the object into our eyes for the object to be seen.</p> <ul style="list-style-type: none"> • Objects that block light (are not fully transparent) will cause shadows. Because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object. 		
Spring 1	<p><u>Animals including humans - Healthy Bodies:</u></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. • Describe the ways in which nutrients and 	<p><u>Animals including humans - Healthy Bodies:</u></p> <ul style="list-style-type: none"> • The heart pumps blood in the blood vessels around to the lungs. Oxygen goes into the blood and carbon dioxide is removed. The blood goes back to the heart and is then pumped around the body. Nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed. As they 	<p><u>Animals including humans - Healthy Bodies:</u></p> <ul style="list-style-type: none"> • Using test results to make predictions to set up further comparative and fair tests. 	<p><u>Animals including humans - Healthy Bodies:</u> Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle</p>

	<p>water are transported within animals, including humans.</p>	<p>are used, they produce carbon dioxide and other waste products. Carbon dioxide is carried by the blood back to the heart and then the cycle starts again as it is transported back to the lungs to be removed from the body. This is the human circulatory system.</p> <ul style="list-style-type: none"> • Diet, exercise, drugs and lifestyle have an impact on the way our bodies function. They can affect how well our heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and generally how fit and well we feel. Some conditions are caused by deficiencies in our diet e.g. lack of vitamins. 		
<p>Spring 2</p>	<p><u>Living things and their habitats - Classifying Organisms:</u></p> <ul style="list-style-type: none"> • Describe how living things are classified into broad groups according to common observable 	<p><u>Living things and their habitats - Classifying Organisms:</u></p> <ul style="list-style-type: none"> • Living things can be formally grouped according to characteristics. Plants and animals are two main groups but there 	<p><u>Living things and their habitats - Classifying Organisms:</u></p> <ul style="list-style-type: none"> • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, 	<p><u>Living things and their habitats - Classifying Organisms:</u> Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering</p>

	<p>characteristics and based on similarities and differences, including micro-organisms, plants and animals.</p> <ul style="list-style-type: none"> • Give reasons for classifying plants and animals based on specific characteristics. 	<p>are other living things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms. Plants can make their own food whereas animals cannot.</p> <ul style="list-style-type: none"> • Animals can be divided into two main groups: those that have backbones (vertebrates); and those that do not (invertebrates). Vertebrates can be divided into five small groups: fish; amphibians; reptiles; birds; and mammals. Each group has common characteristics. Invertebrates can be divided into a number of groups, including insects, spiders, snails and worms. • Plants can be divided broadly into two main groups: flowering plants; and non-flowering plants. 	<p>in oral and written forms such as displays and other presentations using Upper KS2 appropriate vocabulary.</p> <ul style="list-style-type: none"> • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 	
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Summer 1	<p><u>Electricity - Changing Circuits.</u></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. 	<p><u>Electricity - Changing Circuits.</u></p> <ul style="list-style-type: none"> • Adding more cells to a complete circuit will make a bulb brighter, a motor spin faster or a buzzer make a louder sound. If you use a battery with a higher voltage, the same thing happens. Adding more bulbs to a circuit will make each bulb less bright. Using more motors or buzzers, each motor will spin more slowly and each buzzer will be quieter. Turning a switch off (open) breaks a circuit so the circuit is not complete and electricity cannot flow. Any bulbs, motors or buzzers will then turn off as well. 	<p><u>Electricity - Changing Circuits.</u></p> <ul style="list-style-type: none"> • Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. 	<p><u>Electricity - Changing Circuits.</u></p> <p>Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage.</p>
Summer 2				