



KEY:
Biology
Strand

KEY:
Chemistry
Strand

KEY:
Physics
Strand

**Brierley CE (VC) Primary School
Science Primary Knowledge Curriculum
Progression within Strands**

KEY:
End Points
FS2 to explore in provision areas



	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants & Habitats	<p>Growing & Changing Plants HT4</p> <p>To know that some scientists look closely at plants. To know plants need water and light to grow. To experience growing a plant from seed and observing plant growth. To be able to talk about how plants grow To know that living things, such as plants, grow and change throughout the year. To know we can grow food to eat. To name and describe a range of fruit and vegetables. To have experience of handling and tasting a range of fruit and vegetables</p> <p>Stories from the Past HT6</p> <p>Garden Designs – Plants To identify and draw a range of common plants</p>	<p>Plants HT5</p> <p>To describe some common plants, including trees. To name and describe the purpose of parts of a plant, and what they need in order to grow. To understand that plants spread their seeds to reproduce. To understand that some trees are evergreen, and some are deciduous. To understand that plants are grown for food and to recognise which parts of plants we eat</p>	<p>Living Things in their Environment HT2</p> <p>To know what a habitat is, and give examples of different habitats and how plants are adapted to living in them To name and identify a number of plants and their habitats To understand that habitats provide for the basic needs of the plants that live there To understand that plants are well suited to their habitats</p> <p>Plants HT4</p> <p>To be able to observe and describe how seeds and bulbs grow into mature plants To find out and describe how plants need water, light and a suitable temperature to stay healthy.</p>	<p>Cycles in Nature HT2</p> <p>To understand that there are cycles in nature To know that our natural environment changes as the seasons change. To understand how plants can change through the seasons.</p> <p>Plants HT4</p> <p>To know flowering plants are living things that reproduce. To know flowering plants all have roots, a stem or trunk, leaves and flowers but not all flowering plants look the same. To know flowering plants create seeds and flowering plants can only produce seeds if pollen is transferred. To know and understand that conditions, including moisture and warmth, must be right for a seed to germinate and grow into a new plant.</p>	<p>Classification of Plants and Animals HT2</p> <p>To understand that plants can be classified according to characteristics.</p>	<p>Living Things HT3</p> <p>To know plants grow and reproduce in a continuing life cycle</p>	<p>Classification of Living Things HT2</p> <p>To know there are five kingdoms of organisms. To know that plant and animal cells are different. To know that taxonomy is used to show how organisms are related to each other</p> <p>Reproduction HT6</p> <p>To know how plants reproduce. To know asexual reproduction does not require male and female gametes and doesn't alter genetic information. The organism simply copies itself through cell division or by producing spores or budding. To know most large plants reproduce by combining a male and female gamete (pollen and ovule) to make a fertilised egg that grows into an embryo which is protected inside a seed.</p>

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Animals & Habitats	<p><u>Journeys</u> HT2</p> <p><u>Seasons of the Year</u> <u>Winter – Animal Hibernation & Survival</u></p> <p>To know during winter some animals hibernate To name some animals that hibernate and give a reason why.</p> <p><u>Growing & Changing</u> HT4</p> <p><u>Animals & Life Cycles</u></p> <p>To know that animals grow and change. To recognise the adult and child stages of various animals and their corresponding names e.g. cow (calf) etc. To understand that all animals are living things that grow and change over time. To know that a caterpillar changes into a butterfly.</p>	<p><u>Animals and their Needs</u> HT2</p> <p>To understand what an animal is and how animals can be grouped To name and describe a variety of animals using scientific vocabulary To know that animals can be grouped by their features e.g. whether they are amphibians or mammals. To know that animals can be grouped by what they eat e.g. herbivores, omnivores and carnivores. To know that there are wild and domestic animals and that domestic animals are animals that we keep as pets</p>	<p><u>Living Things in their Environment</u> HT2</p> <p>To know what a habitat is, and give examples of different habitats and how animals are adapted to living in them To name and identify a number of animals, and their habitats To understand that habitats provide for the basic needs of the animals that live there To understand that animals are well suited to their habitats</p>	<p><u>Cycles in Nature</u> HT2</p> <p>To understand that there are cycles in nature To know that our natural environment changes as the seasons change. To know that some animals migrate and can give examples To recognise the different stages in the life cycle of a frog.</p>	<p><u>Classification of Plants and Animals</u> HT2</p> <p>To understand that animals can be classified according to characteristics. To know scientists classify animals into two groups: vertebrates and invertebrates. To know vertebrates have a backbone or spinal column, whereas an invertebrate does not To know animals can be classified by whether they are cold-blooded or warm-blooded</p> <p><u>Ecology</u> HT3</p> <p>To show my knowledge and understanding of ecology. To know that living things depend on each other within a habitat To know the 7 life processes which living things have in common: Movement, Reproduction, Sensitivity, Growth, Respiration, Excretion, Nutrition To know the three groups of living things which the cycle of nature depends on: producers, consumers and de-composers To recognise that environments can change and that this can sometimes pose dangers to living things</p>	<p><u>Living Things</u> HT3</p> <p>To understand living things grow and reproduce in a continuing cycle of life. To know there are many differences between the life cycles of mammals, amphibians, insects and birds.</p>	<p><u>Classification of Living Things</u> HT2</p> <p>To be able to classify animals based on specific characteristics and give reasons. To know there are five kingdoms of organisms. To know that plant animal cells are different. To know that taxonomy is used to show how organisms are related to each other To know that vertebrates are classified into five groups: fish, amphibians, reptiles, birds and mammals. To understand that scientists divide invertebrates into groups including insects, arachnids and molluscs.</p> <p><u>Reproduction</u> HT5</p> <p>To know how animals reproduce. To know sexual reproduction requires male and female cells to combine to form a fertilised egg. To know most animals have male cells (sperm produced in testes) or female cells (eggs produced by ovaries). To know when a foetus can live outside the mother, it is born.</p>

							Evolution HT6 To show an understanding of evolution. To know fossils are physical evidence of life from long ago. To know offspring are usually similar to, but not identical to their parents. To know living things can adapt to suit their environment. To know who Charles Darwin was and what natural selection is. To know who Alfred Wallace was and understand his contribution to the theory of evolution.
	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Humans	All About Me HT1 The Human Body To know my body has different parts. To identify main body parts and their functions. To know my body can do amazing things. To talk about all the different things our bodies can do including move, think & play. To know we have bones inside our bodies that help us to move.	The Human Body HT1 To know my senses help me to understand the world around me. To identify, name, label and draw the basic parts of the human body. To identify and label parts of our body relating to our senses.	The Human Body HT1 To know our bodies, including our muscles and bones, need exercise to stay healthy. To know our digestive system takes nutrients from food to help us stay healthy. To understand that keeping clean stops germs from spreading and keeps us healthy.	The Human Body HT1 To be able to describe one of the many systems in our body. To know our body contains different systems that enable us to grow, move and respond to the world around us. To know our digestive system breaks down food into energy and nutrients. To know the brain sends messages around our	The Human Body HT1 To understand that all living things are made up of cells, too small to be seen without a microscope. To know cells make up tissues, tissues make up organs and organs work in systems. To know scientist use a powerful magnifying glass, called a microscope, to look at cells.	The Human Body HT1 To have an understanding of the human reproductive and endocrine system and their role in human development. To know humans undergo many changes as they develop from conception to old age. To know puberty is the physical process by which the human changes from child to adult and can reproduce.	The Human Body HT1 To understand that the blood circulates throughout the body, gaining oxygen in the lungs and that it is the heart that pumps the blood around. To know the heart and blood vessels make up the circulatory system. To know the heart has four chambers and that it pumps blood depleted of oxygen to the lungs, and

	<p>Growing & Changing HT4 People</p> <p>To know we grow and change throughout our lives.</p> <p>To describe some of the phases of the human life cycle.</p> <p>To know they have changed since they were born and can describe some of the things they can do now that they couldn't before.</p> <p>To know when we become adults there are many different things we can do.</p> <p>With support, have the opportunity to seek patterns, test an idea, measure, compare and contrast and draw conclusions.</p>			<p>bodies through our nervous system</p> <p>To know the skeletal system support and protects our bodies and the muscular system enables us to move our bodies</p>	<p>To know signals are sent from the brain to the salivary glands and then to the stomach.</p> <p>To identify different types of teeth and know that they have different jobs.</p> <p>To know the stomach stirs up the food and mixes it with acid, the intestines move the food around.</p> <p>To know the small intestine is a long coiled up tube that winds around inside your tummy and whilst in the intestine, the nutrients are absorbed by the blood.</p> <p>To know that they need a balanced meal to be healthy and get all the nutrients they need.</p> <p>To identify and understand the parts of the food pyramid.</p> <p>To know the essential vitamins and minerals needed in our body.</p>	<p>To know as human's age, they begin to slow and sometimes problems like heart disease or arthritis occur.</p>	<p>pumps oxygenated blood around the body.</p> <p>To know that lifestyle choices can impact on our circulatory system including the health of our heart.</p> <p>Reproduction HT5</p> <p>To know how animals (including humans) reproduce.</p> <p>To know sexual reproduction requires male and female cells to combine to form a fertilised egg.</p> <p>To know most animals have male cells (sperm produced in testes) or female cells (eggs produced by ovaries).</p> <p>To know when a foetus can live outside the mother, it is born.</p>
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Materials & States of Matter	<p>Journeys HT2 Changing States of Matter</p> <p>To know that frost and ice melts with warmth.</p> <p>To know ice is frozen water.</p> <p>Stories from the Past HT6 Changing States of Matter</p> <p>To know some materials melt when heated</p> <p>To know some materials cook when heated</p>	<p>Materials and Magnets HT6</p> <p>To know the properties of some materials.</p> <p>To know materials have different properties.</p> <p>To know materials have different uses around the home and in everyday life.</p>	<p>Materials and Matter HT5</p> <p>To be able to describe different materials and their properties.</p> <p>To know the materials used around us have different properties.</p> <p>To know solids have a definite shape and we can change the shape of some solids by bending and squashing.</p> <p>To know liquids flow freely</p>	<p>Rocks HT5</p> <p>To explain rocks and what they can tell us about our planet.</p> <p>To know rocks are classified by how they are formed: sedimentary, igneous and metamorphic.</p> <p>To know rocks can also be classified by their properties such as whether they are hard or whether they are permeable</p>	<p>The Water Cycle (States of Matter) HT5</p> <p>To know that water changes state within the water cycle.</p> <p>To know when water evaporates, it becomes water vapour.</p> <p>To know condensation is when water vapour turns back into liquid.</p> <p>To understand not all water evaporates and that some of this will soak into the ground and become ground water.</p>	<p>Materials HT2</p> <p>To understand that materials have properties that include solubility.</p> <p>To know how to separate mixtures and that changes are reversible or irreversible</p> <p>To know properties can be grouped on the basis of their properties.</p> <p>To know when a solute dissolves in a solvent to form a solution, the process is reversible.</p>	

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Earth & Space	<p>Space HT3 Our Planet Earth To know we live on planet Earth. To be able to explain that planet Earth has air for us to breathe, land to live on and oceans. To begin to understand that gravity keep us standing on the ground.</p> <p>Space HT3 Solar System & Space Travel To know there are planets in our solar system, and they are very different to each other. To recognise the names and features of the planets. To know the sun is a star located at the centre of our solar system. To know that the stars we see in the sky are very far away. To understand that things that are far away can appear small, but if we were near to them</p>	<p>Taking Care of the Earth HT4 To describe different ways we can take care of the Earth. To know that there are natural and man-made resources. To know some resources are renewable and some are non-renewable To know that logging means cutting down trees. To identify some of the ways in which the environment can be polluted and how we can reduce pollution</p>	<p>Astronomy HT6 To show understanding of our Solar System. To know about the planets in our solar system. To know that Earth travels around the sun. To know that the moon orbits the earth. To be able to describe and name some constellations. To know that scientists explore space.</p>	<p>To know fossils are formed over a long period of time from the remains of plants and animals that have died. To know soil is a mixture of small pieces of rock with dead organic matter.</p>	<p>To know high in the sky the air is cooler and turns vapour back into water droplets. To know there is always water vapour in the air and the temperature changes its appearance. To know precipitation returns water to the surface of the earth within the water cycle.</p>	<p>Astronomy HT5 To know the order of scale: planet, sun, solar system, galaxy and universe. To know that astronomers believe the universe started 14 billion years ago in a big bang and that it is still expanding. To know that gravity is a force between all objects, and the force is bigger if the object is bigger. We can only 'feel' gravity between us and the Earth. To know the planets of the solar system To understand the reason that we see the phases of the moon To understand that the Solar System is just a small part of our universe</p>	

	we'd see they are not.						
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Seasons & Weather	<p><u>Investigation Shed in Provision Areas</u> To use senses to explore the changing seasons</p> <p><u>Weather Station in Provision Areas</u> To name and describe different weather conditions and temperatures</p> <p><u>All About Me HT1</u> <u>Seasons of the Year Autumn</u> To know there are four seasons; spring, summer, autumn and winter. Begin to identify specific things that happen and activities we do in autumn To know during autumn, some trees lose their leaves. To look closely at leaves and describe them.</p> <p><u>Journeys HT2</u> <u>Seasons of the Year Winter & Transport in Winter</u> To know there are four seasons; spring, summer, autumn and winter. Begin to identify specific things that happen and activities we do in winter.</p>	<p><u>Seasons & Weather HT3</u> To understand and describe the four seasons, and how to gather data about weather To know we have four seasons; spring, summer, autumn and winter. Our weather is warmer during the spring and summer and cooler during the autumn and winter. To know the tools used to gather data about the weather There are different types of cloud and that clouds indicate the weather we are about to experience To recognise weather symbols used in weather forecasting and explain the importance of accurate forecasts To know meteorologists can study the weather and predict how it will change. To know some weather can be dangerous, for example, flooding and hurricanes.</p>					<p><u>Meteorology HT6</u> To know the atmosphere protects Earth and enables life. To know human actions can help or harm the atmosphere. To know that four air masses affect the weather we experience in the UK. To know a weather front is a boundary where warm and cold air meet. To know that thunder and lightning is caused by electrical charge moving through the air.</p>

	<p>To know the impact winter weather can have on transport in the UK.</p> <p><u>Space</u> HT3 <u>Seasons of the Year</u> <u>Spring</u> To know there are four seasons; spring, summer, autumn and winter. To identify the first signs of spring and activities we do in spring</p> <p><u>Kings & Queens</u> HT5 <u>Seasons of the Year</u> <u>Summer</u> To know there are four seasons; spring, summer, autumn and winter. Begin to identify specific things that happen in summer and activities we do in summer</p> <p><u>Stories from the Past</u> HT6 <u>Seasons of the Year</u> <u>Summer Safety</u> To know there are four seasons; spring, summer, autumn and winter. To know how to stay safe in the sun</p>						
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Forces & Magnetism	<p><u>Journey's</u> HT2 <u>Forces</u> To know that some objects float and others sink. To identify the forces of push, pull and twist.</p>	<p><u>Materials and Magnets</u> HT6 To know some facts about magnets. To know magnetism is a force we cannot see. To know magnets, have different uses around the</p>		<p><u>Forces and Magnets</u> HT6 To be able to explain that we cannot see forces, but we can see the impact they have, using examples of gravity, friction and magnetism.</p>		<p><u>Forces</u> HT4 To explain how forces work using diagrams to show understanding To Know unsupported objects fall towards the Earth because of the force of gravity acting between</p>	

	<p>Space HT3 Our Planet Earth</p> <p>To know that gravity is a force we can't see that keeps us on Earth.</p>	home and in everyday life.		<p>To know gravity is a force that causes things to fall to the ground when dropped.</p> <p>To know and understand that friction is a force between two objects that slows down the moving object.</p> <p>To know magnets have two poles and like poles repel whereas unlike poles attract.</p> <p>To know magnets have different strengths.</p>		<p>the Earth and the falling object</p> <p>To know air resistance, water resistance and friction, act between moving surfaces</p> <p>To know simple machines, including levers, pulleys and gears, allow a smaller force to have a greater effect</p>	
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Light & Shadow	<p>Space HT3 The Sun, Day & Night</p> <p>To know the sun gives us light</p> <p>To know dark is the absence of light</p> <p>To distinguish between day and night</p> <p>To have opportunities to play with shadows</p> <p>To have opportunities to play with torches</p>			<p>Light HT3</p> <p>To understand we need light in order to see things and that dark is the absence of light</p> <p>To know light is essential for life on Earth.</p> <p>To know light is reflected from some surfaces, such as mirrors</p> <p>To know sometimes light from the sun can be dangerous and we can protect ourselves from this.</p>			<p>Light HT4</p> <p>To understand how light behaves</p> <p>To know light travels in straight lines</p> <p>To know shadows are always the same shape as the objects that made them</p> <p>To know the size of shadows can change, but the outline shape is always the same as the original object</p> <p>To know light can reflect from a surface and change the duration of travel</p>
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Sound	<p>Music Provision Areas</p> <p>To explore making and describe sounds with a range of instruments (loud, soft, long & short)</p>				<p>Sound HT4</p> <p>To understand that sound is caused by a back and forth movement called vibration.</p> <p>To know that sound waves move out from a</p>		

					<p>vibrating object in all directions.</p> <p>To know in warm air, sound travels at about 770 miles per hour (340 metres per second).</p> <p>To understand that sound becomes quieter further from the source.</p> <p>To know loud sounds have larger vibrations and quiet sounds have smaller vibrations.</p> <p>To know high pitched sounds have faster vibrations and low pitched sounds have slower vibrations.</p> <p>To know the larynx is in the throat and the muscles vibrate the vocal cords.</p>		
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Electricity	<p>Home Corner Provision Areas</p> <p>To be able to identify some common appliances that run on electricity</p> <p>Santa's Grotto Provision Areas</p> <p>To explore and name battery cell, wires and bulbs through play</p>		<p>Electricity HT3</p> <p>To identify electrical appliances</p> <p>To explain how to ensure we are using electricity safely</p> <p>To know how to make a simple circuit</p> <p>To identify electrical conductors and insulators.</p> <p>To know electricity is an energy that we can store or use to make things work.</p> <p>To know an electrical circuit is a wire loop that allows electricity to travel around it.</p>		<p>Electricity HT6</p> <p>To know that electricity flows around a circuit and can make components, such as a light bulb, work</p> <p>To understand that electricity is an energy that we can store or use to make things work.</p> <p>To know that an electrical circuit is a wire loop that allows electricity to travel around it.</p> <p>To know materials that allow electricity to pass through them are conductors.</p>		<p>Electricity HT3</p> <p>To Independently design and make a circuit for a purpose</p> <p>To know electricity can flow from one place to another and that this is called an electrical current.</p> <p>To know we can control electricity by causing it to flow in a circuit.</p> <p>To know making a gap in a circuit prevents electricity from flowing.</p>