

## Priors Hall Science Units and 'Need to Know' Knowledge

	Autumn	Spring	Summer
<b>Year 1</b>	<p><b>Autumn 1 - Animals including humans (The Human Body)</b></p> <ul style="list-style-type: none"> <li>To identify the basic body parts - the head, arms, legs, nose, eyes, ears, mouth, hands and feet.</li> <li>To know that there are five senses.</li> <li>To know that the ears are used for hearing.</li> <li>To know that eyes are used to see.</li> <li>To know that the nose is used to smell.</li> <li>To know that the tongue is used to taste.</li> <li>To know that the skin is used to touch,</li> </ul> <p><b>Autumn 2 - Plants</b></p> <ul style="list-style-type: none"> <li>To know that plants are living things.</li> <li>To name some common plants.</li> <li>To know that trees are either evergreen or deciduous.</li> <li>To know that trees that lose their leaves in the autumn are called deciduous trees.</li> <li>To know that trees that keep their leaves all year round are called evergreen trees.</li> </ul>	<p><b>Spring 1 – Materials</b></p> <ul style="list-style-type: none"> <li>To know that a material is what an object is made from.</li> <li>To name and recognise everyday materials.</li> <li>To recognise that materials, have different properties.</li> <li>To understand that materials can be grouped according to their properties.</li> <li>To know that materials can have more than one property,</li> </ul> <p><b>Spring 2 – Energy (Seasonal Changes)</b></p> <ul style="list-style-type: none"> <li>To know and name the four seasons.</li> <li>To know that certain events happen in different seasons.</li> <li>To know that certain weather patterns happen in different seasons.</li> <li>To understand that the day length changes depending on the season.</li> <li>To know that different types of weather.</li> <li>To recognise that the weather can change daily and can be dependent on the season.</li> </ul>	<p><b>Summer 1 - Plants</b></p> <ul style="list-style-type: none"> <li>To know that plants are living things.</li> <li>To name some common plants.</li> <li>To identify the basic parts of a plant.</li> <li>To identify the basic parts of a tree.</li> </ul> <p><b>Summer 2 – Animals including humans</b></p> <ul style="list-style-type: none"> <li>To know that animals are living things.</li> <li>To know that animals can be grouped into six main groups.</li> <li>To know that carnivores eat other animals.</li> <li>To know that herbivores eat plants.</li> <li>To know that omnivores eat other animals and plants.</li> <li>To understand that different animal groups have some common body parts and some different body parts.</li> </ul>

<p><b>Year 2</b></p>	<p><b>Autumn 1 - Materials</b></p> <ul style="list-style-type: none"> <li>• To know that a material's physical properties make it suitable for particular purposes.</li> <li>• To know that many materials are used for more than one purpose.</li> <li>• To recognise that some objects and materials can be changed by squashing, bending, twisting and stretching.</li> <li>• To recognise that some objects and materials can be changed by heating and cooling.</li> <li>• To recognise that some objects and materials can be changed by mixing.</li> <li>• To recognise that some objects and materials can be changed by being left to decay.</li> </ul> <p><b>Autumn 2 – Materials</b></p> <ul style="list-style-type: none"> <li>• To know that a material's physical properties make it suitable for particular purposes.</li> <li>• To know that many materials are used for more than one purpose.</li> <li>• To recognise that some objects and materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	<p><b>Spring 1 – Animals including humans</b></p> <ul style="list-style-type: none"> <li>• To know that human offspring go through different stages as they grow to become adults.</li> <li>• To know that humans and animals have offspring.</li> <li>• To recognise that different animals have different stages of growth or life cycles.</li> <li>• To know that humans and animals need water, food, air and shelter to survive.</li> <li>• To know that an animals’ habitat must provide all the things it needs to survive.</li> <li>• To know what a healthy lifestyle includes.</li> </ul> <p><b>Spring 2 – Plants</b></p> <ul style="list-style-type: none"> <li>• To know that plants grow from seeds.</li> <li>• To know that plants grown from bulbs.</li> <li>• To recognise that seeds and bulbs need nutrients from soil, water and warmth to start growing</li> <li>• To know that germination is when plants have the right conditions to grow well.</li> <li>• To understand how plants change.</li> <li>• To know that what plants need in order to grow and stay healthy.</li> </ul>	<p><b>Summer 1 – Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• To know that living things are those that are alive.</li> <li>• To know that non-living things include dead things.</li> <li>• To understand that a habitat is a place where a living thing lives.</li> <li>• To know that living things live in a habitat to which they are suited.</li> <li>• To know that a local habitat could be a park, woodland and garden.</li> <li>• To know that habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains.</li> <li>• To recognise that a microhabitat is a very small habitat.</li> </ul> <p><b>Summer 2 – Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• To know that living things are those that are alive.</li> <li>• To know that non-living things include dead things.</li> <li>• To understand that a habitat is a place where a living thing lives.</li> <li>• To know that living things live in a habitat to which they are suited.</li> <li>• To know that a local habitat could be a park, woodland and garden.</li> </ul>
----------------------	---	---	--

## Y1-Y6 Science Overview

	<ul style="list-style-type: none"> <li>• To recognise that some objects and materials can be changed by heating and cooling.</li> <li>• To recognise that some objects and materials can be changed by mixing.</li> <li>• To recognise that some objects and materials can be changed by being left to decay.</li> </ul>		<ul style="list-style-type: none"> <li>• To know that habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains.</li> <li>• To recognise that a microhabitat is a very small habitat.</li> <li>• To know understand that a food chain shows how living things depend on one another for food.</li> <li>• To know that all food chains start with a plant, followed by animals that either eat the plant or other animals.</li> </ul>
--	--	--	---

<p><b>Year 3</b></p>	<p><b>Autumn 1 – Materials (Rocks)</b></p> <ul style="list-style-type: none"> <li>• To know that there are three different rock types.</li> <li>• To explain how sedimentary rock is formed.</li> <li>• To explain how igneous rocks are made.</li> <li>• To know how metamorphic rocks are formed.</li> <li>• To know what a fossil is and how they are formed.</li> <li>• To know that there are different types of soil and what they are made from.</li> </ul> <p><b>Autumn 2 – Energy (Light)</b></p> <ul style="list-style-type: none"> <li>• To know that we need light in order to see.</li> <li>• To know that light can reflect from different surfaces.</li> <li>• To understand that light from the sun can be dangerous and it is important to protect ourselves.</li> <li>• To know what a shadow is and how it is formed.</li> <li>• To understand how shadows change.</li> </ul>	<p><b>Spring 1 – Forces and magnets</b></p> <ul style="list-style-type: none"> <li>• To know what a force is and how objects move if a force is applied to them.</li> <li>• To know that some forces need contact between two objects.</li> <li>• To know how magnetic forces work.</li> <li>• To identify magnetic materials.</li> <li>• To know magnets have two poles.</li> </ul> <p><b>Spring 2 – Plants</b></p> <ul style="list-style-type: none"> <li>• To know that the roots anchor a plant and transport water.</li> <li>• To know that the stem (or trunk) supports the plant.</li> <li>• To know how the leaves make food for the plant.</li> <li>• To understand that flowers make seeds,</li> <li>• To know that different plants have different needs depending on their habitat.</li> <li>• To understand how water is transported in plants.</li> <li>• To know the life cycle of a plant.</li> <li>• To understand that seeds can be dispersed in a variety of ways.</li> </ul>	<p><b>Summer 1 – Animals including humans</b></p> <ul style="list-style-type: none"> <li>• To know what a carnivore is and to be able to name some carnivores.</li> <li>• To know what a herbivore is and be able to name some herbivores.</li> <li>• To know what an omnivore is and be able to name some omnivores.</li> <li>• To know that humans get nutrition from what they eat.</li> <li>• To understand what a balanced diet includes.</li> </ul> <p><b>Summer 2 – Animals including humans</b></p> <ul style="list-style-type: none"> <li>• To recognise that humans have a skeleton made up of lots of different bones.</li> <li>• To know what muscles are and understand how they help humans move.</li> <li>• To know that other animals also have skeletons.</li> <li>• To know that some animals have exoskeletons.</li> <li>• To know that some animals don't have a skeleton.</li> </ul>
----------------------	--	--	---

<p><b>Year 4</b></p>	<p><b>Autumn 1 - Electricity</b></p> <ul style="list-style-type: none"> <li>To know that electricity is a type of energy and it powers everyday appliances.</li> <li>To know that electricity can also come from batteries.</li> <li>To recognise there are different electrical components.</li> <li>To recognise what a simple circuit includes.</li> <li>To know that an electrical conductors allow electricity to flow through them.</li> <li>To know that insulators do not let electricity flow through them.</li> </ul> <p><b>Autumn 2 – Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>To know that animals can be divided into six main groups based on their shared characteristics.</li> <li>To know that a classification key is used to identify living things.</li> <li>To understand and use classification keys to identify plants and animals.</li> <li>To know that there are different habitats and organism live in different habitats that are suited to their needs.</li> <li>To know that habitats can change due to natural impact.</li> <li>To know that habitats can change due to human impact.</li> </ul>	<p><b>Spring 1 – Sound</b></p> <ul style="list-style-type: none"> <li>To know that sounds are made when objects and materials vibrate.</li> <li>To know that sounds can travel through different materials.</li> <li>To recognise that sounds travels in sound waves to the ear.</li> <li>To know that pitch is how high or low a sound is.</li> <li>To know that volume is how loud or quiet a sound is and distance can impact it.</li> <li>To understand that sounds can be different pitches and volumes.</li> </ul> <p><b>Spring 2 – Animals including humans</b></p> <ul style="list-style-type: none"> <li>To know how the digestive system works.</li> <li>To describe the functions of the basic parts of the digestive system.</li> <li>To name the four different types of teeth.</li> <li>To describe the functions of the teeth.</li> <li>To know that the characters of the teeth can support the foods that carnivores, herbivores and omnivores eat.</li> <li>To know that food chains show what animals eat within a habitat.</li> <li>To understand that changes to a food chain can affect the animals in the chain.</li> </ul>	<p><b>Summer 1 – Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>To know that animals can be divided into six main groups based on their shared characteristics.</li> <li>To know that a classification key is used to identify living things.</li> <li>To understand and use classification keys to identify plants and animals.</li> <li>To know that there are different habitats and organism live in different habitats that are suited to their needs.</li> <li>To know that habitats can change due to natural impact.</li> <li>To know that habitats can change due to human impact.</li> </ul> <p><b>Summer 2 – Materials (States of Matter)</b></p> <ul style="list-style-type: none"> <li>To know that materials can be grouped into solids, liquids and gases.</li> <li>To know that solids stay in one place and can be held.</li> <li>To know that liquids flow and can move around.</li> <li>To know that gases spread out to fill the available space and cannot be held.</li> <li>To understand that heating or cooling materials can change their state and it can be reversible or irreversible</li> <li>To know that the temperature in which material changes state depends on the material.</li> </ul>
----------------------	---	--	--

			<ul style="list-style-type: none"> <li>To know that evaporation is caused by temperature changes.</li> </ul>
Year 5	<p><b>Autumn 1 - Animals including humans</b></p> <ul style="list-style-type: none"> <li>To know the main stages in the life cycle of a human.</li> <li>To recognise the stages of development through childhood and the needs of children during these stages.</li> <li>To know what puberty is.</li> <li>To understand the initial changes inside and outside of the body during puberty.</li> <li>To know that changes occur during puberty and these differ for boys and girls.</li> <li>To understand that body changes during adulthood and old age.</li> </ul> <p><b>Autumn 2 – Materials</b></p> <ul style="list-style-type: none"> <li>To know that materials can be grouped according to their basic physical properties.</li> <li>To know that some materials will dissolve in liquid to form a solution.</li> <li>To understand that some mixtures can be separated.</li> <li>To understand that a material's properties dictate what it can be used for.</li> <li>To know that reversible changes include heating, cooling, melting, dissolving and evaporating.</li> <li>To know that irreversible changes include burning, rusting, decaying and chemical reactions.</li> </ul>	<p><b>Spring 1 – Forces and magnets</b></p> <ul style="list-style-type: none"> <li>To know that gravity is a force between the Earth and falling object.</li> <li>To know that friction, air resistance and water resistance are forces.</li> <li>To understand how friction opposes motion and slow down moving objects on surfaces.</li> <li>To understand how air resistance opposes motion and slows down moving objects in the air.</li> <li>To understand how water resistance opposes motion and slows down moving objects in the water.</li> <li>To recognise that levers, pulleys and gears allow a smaller force to have a greater effect.</li> </ul> <p><b>Spring 2 – Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>To know that a life cycle is the series of changes in the life of a living thing.</li> <li>To know the main stages of an animal's life cycle including mammals, amphibians, insects and birds.</li> <li>To understand the sexual reproduction process in animals.</li> <li>To understand the asexual reproduction process in plants.</li> <li>To understand the sexual reproduction process in flowering plants.</li> <li>To know the parts of flowers and plants and their function including seeds.</li> </ul>	<p><b>Summer 1 – Earth and Space</b></p> <ul style="list-style-type: none"> <li>To know what makes up The Solar System.</li> <li>To understand the movements of the Earth.</li> <li>To understand the movements of the Moon.</li> <li>To understand the movements of the Sun.</li> <li>To know that all the plants and stars are spherical.</li> <li>To understand how the rotation of the Earth creates day and night.</li> <li>To understand how the Earth's tilt creates seasons.</li> <li>To know the different phases of the moon.</li> </ul> <p><b>Summer 2 – Earth and Space</b></p> <ul style="list-style-type: none"> <li>To know what makes up The Solar System.</li> <li>To understand the movements of the Earth.</li> <li>To understand the movements of the Moon.</li> <li>To understand the movements of the Sun.</li> <li>To know that all the plants and stars are spherical.</li> <li>To understand how the rotation of the Earth creates day and night.</li> <li>To understand how the Earth's tilt creates seasons.</li> <li>To know the different phases of the moon.</li> </ul>

<p><b>Year 6</b></p>	<p><b>Autumn 1 – Energy (Light)</b></p> <ul style="list-style-type: none"> <li>• To know that light travels in straight lines.</li> <li>• To know that there are different types of light.</li> <li>• To understand that we see things because light travels from light sources to our eyes.</li> <li>• To know the different parts of the eye and their function in helping us to see.</li> <li>• To know why shadows form.</li> <li>• To know why shadows take the shape of their object.</li> </ul> <p><b>Autumn 2 – Animals including humans</b> (Evolution)</p> <ul style="list-style-type: none"> <li>• To recognise that living things have changed over time.</li> <li>• To know that there are a number of factors that can affect a species' evolution.</li> <li>• To understand that humans have evolved over time.</li> <li>• To know that human behaviour can affect change in species over time.</li> <li>• To recognise that living things produce offspring of the same kind.</li> <li>• To know that selective breeding is where animals and plants can be bred to produce offspring with specific and desired characteristics.</li> <li>• To know what adaptation is and how it can lead to evolution.</li> </ul>	<p><b>Spring 1 – Electricity</b></p> <ul style="list-style-type: none"> <li>• To know what voltage is and know that it is measured in volts.</li> <li>• To understand that the bigger the voltage, the more electrons are pushed through the circuit.</li> <li>• To know what the main components of a circuit are.</li> <li>• There are recognised symbols for different components of circuits.</li> <li>• To recognise when circuits will work and when they won't.</li> <li>• To understand how the functions of component might vary and know why.</li> </ul> <p><b>Spring 2 – Animals including humans</b> (Circulatory Systems)</p> <ul style="list-style-type: none"> <li>• To know the main parts of the circulatory system and their function.</li> <li>• To know the role of the circulatory system.</li> <li>• To know that there are three types of blood vessel and to describe their functions.</li> <li>• To know that happens to heart and the circulatory system when we exercise.</li> <li>• To know the effects of tobacco, alcohol and other drugs on the body.</li> </ul>	<p><b>Summer 1 – Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• To know that living things are classified into groups, according to common observable characteristics.</li> <li>• To know that classification keys help us identify living things based on their physical characteristics.</li> <li>• To understand how classification keys can be used to group organisms into broad groups.</li> <li>• To recognise how classification keys can be used to classify organisms with similar characteristics.</li> <li>• To know and name the ranks within the biological classification system.</li> </ul> <p><b>Summer 2 – Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• To know that living things are classified into groups, according to common observable characteristics.</li> <li>• To know that classification keys help us identify living things based on their physical characteristics.</li> <li>• To understand how classification keys can be used to group organisms into broad groups.</li> <li>• To recognise how classification keys can be used to classify organisms with similar characteristics.</li> <li>• To know and name the ranks within the biological classification system.</li> </ul>
----------------------	---	---	---