



Homefield Primary Curriculum – Science Unit Plans



Science					
		Plants	Animals, including Humans	Materials	Physical Phenomena
R	Aut		Children begin to name parts of the body and recognise that there are similarities and differences between each other. They will explore the 5 senses and the body parts associated with them, taking part in a range of activities to apply what they have learnt.		Over the year, children will explore seasonal change, looking at simple changes such as the trees, the weather and what they might wear. They will discuss how they feel in different seasons and what they can see that has changed over the year.
	Spr			Children will begin to look at materials and identify that some change state when heated, such as ice and cookie dough. They will observe, feel and talk about the changes that they see, discussing in simple terms if these changes are permanent or can be reversed.	
	Sum	Children will discuss what they know about plants and will identify what they need in order to survive. They will plant sunflower seeds and observe them growing, naming the parts of the plants as they grow.	Children have a visit from a dental hygienist and discuss dental hygiene and the importance of brushing their teeth. They will observe simple experiments to see the effects of certain foods on their teeth alongside discussions about healthy foods.		
1	Aut		<p>Animals, including Humans</p> Children will identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. They will identify and name a variety of common animals that are carnivores, herbivores and omnivores. They will describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). They will identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	<p>Everyday Materials</p> Children will be able to distinguish between an object and the material from which it is made. They will identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. They will describe the simple physical properties of a variety of everyday materials and compare and group together those materials on the basis of their simple physical properties.	
	Spr	<p>Plants</p> Children will learn to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. They will identify and describe the basic structure of a variety of common flowering plants, including trees.			
	Sum				<p>Seasonal Changes</p> Children will observe changes across the four seasons. They will observe and describe weather associated with the seasons and how day length varies.
2	Aut			<p>Uses of Everyday Materials</p> Children will identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	
	Spr	<p>Living Things and their Habitats</p> Children will explore and compare the differences between things that are living, dead, and things that have never been alive. They will be able to identify that most living things live in habitats to which they are suited. They will describe how different habitats provide for the basic needs of different kinds of animals and plants and will begin to			



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		understand how they depend on each other. They will identify and name a variety of plants and animals in their habitats, including microhabitats. They will describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.			
	Sum	<p style="text-align: center;">Plants</p> <p>Children will observe and describe how seeds and bulbs grow into mature plants. They will find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p style="text-align: center;">Animals, including Humans</p> <p>Children will learn that animals, including humans, have offspring which grow into adults. They will find out about and describe the basic needs of animals, including humans, for survival (water, food and air). They will be able to describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>		
3	Aut	<p style="text-align: center;">Plants</p> <p>Children will identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. They will explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. They will investigate the way in which water is transported within plants. They will explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p style="text-align: center;">Animals, including Humans</p> <p>Children will identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. They will identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p style="text-align: center;">Rocks</p> <p>Children will compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. They will describe in simple terms how fossils are formed when things that have lived are trapped within rock. They will recognise that soils are made from rocks and organic matter.</p>	<p style="text-align: center;">Light</p> <p>Children will recognise that they need light in order to see things and that dark is the absence of light. They will notice that light is reflected from surfaces. They will recognise that light from the sun can be dangerous and that there are ways to protect their eyes. They will recognise that shadows are formed when the light from a light source is blocked by an opaque object. They will find patterns in the way that the size of shadows change.</p>
	Spr				<p style="text-align: center;">Forces and Magnets</p> <p>Children will compare how things move on different surfaces. They will notice that some forces need contact between two objects, but magnetic forces can act at a distance. They will observe how magnets attract or repel each other and attract some materials and not others. They will compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. They will describe magnets as having two poles and predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>
	Sum				
4	Aut	<p style="text-align: center;">Living Things and their Habitats</p> <p>Children will recognise that living things can be grouped in a variety of ways. They will explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. They will recognise that environments can change and that this can sometimes pose dangers to living things.</p>		<p style="text-align: center;">States of Matter</p> <p>Children will compare and group materials together, according to whether they are solids, liquids or gases. They will observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). They will identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p style="text-align: center;">Sound</p> <p>Children will be able to identify how sounds are made, associating some of them with something vibrating. They will recognise that vibrations from sounds travel through a medium to the ear. They will find patterns between the pitch of a sound and features of the object that produced it. They will find patterns between the volume of a sound and the strength of the vibrations that produced it. They will recognise that sounds get fainter as the distance from the sound source increases.</p>
	Sum				



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	Spr		<p>Animals, including Humans</p> <p>Children will describe the simple functions of the basic parts of the digestive system in humans. They will identify the different types of teeth in humans and their simple functions. They will construct and interpret a variety of food chains, identifying producers, predators and prey.</p>		<p>Electricity</p> <p>Children will be able to identify common appliances that run on electricity. They will construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. They will identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. They will recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. They will recognise some common conductors and insulators, and associate metals with being good conductors.</p>
	Sum				
5	Aut	<p>Living Things and their Habitats</p> <p>Children will describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. They will describe the life process of reproduction in some plants and animals.</p>		<p>Properties and Changes of Materials</p> <p>Children will compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. They will know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. They will use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. They will give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. They will demonstrate that dissolving, mixing and changes of state are reversible changes. They will explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	<p>Earth and Space</p> <p>Children will describe the movement of the Earth, and other planets, relative to the Sun in the solar system. They will describe the movement of the Moon relative to the Earth. They will describe the Sun, Earth and Moon as approximately spherical bodies. They will use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>
	Spr		<p>Animals, including Humans</p> <p>Children will describe the changes as humans develop to old age.</p>		<p>Forces</p> <p>Children will be able to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. They will identify the effects of air resistance, water resistance and friction, that act between moving surfaces. They will recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>
	Su				
6	Aut	<p>Living Things and their Habitats</p> <p>Children will describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. They will give reasons for classifying plants and animals based on specific characteristics.</p>			<p>Light</p> <p>Children will recognise that light appears to travel in straight lines. They will use the idea that light travels in straight lines to explain that objects are seen because</p>



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				they give out or reflect light into the eye. They will 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. They will use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Spr		<p>Animals, including Humans</p> <p>Children will identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. They will recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. They will describe the ways in which nutrients and water are transported within animals, including humans.</p>		<p>Electricity</p> <p>Children will associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. They will 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. They will use recognised symbols when representing a simple circuit in a diagram.</p>
Sum	<p>Evolution and Inheritance</p> <p>Children will recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. They will recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. They will identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>			