



Subject: Science

Long Term Plan Including Key Knowledge

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Reception	<ul style="list-style-type: none"> - understand the importance of healthy food choices - understand the changing seasons - know what happens when water melts - observe and draw plants - observe and draw pictures of animals 					
Year 1	Weather - correctly identify and use the season names spring, summer, autumn and winter - know the days are longer in the summer	Materials - identify plastic, wood, metal, glass, water, bricks, paper, fabric, stone - use the vocabulary hard, soft, stretchy, shiny, dull, rough, smooth, bendy, waterproof	Animals including humans - know the terms fish, amphibians, reptiles, birds and mammals - Know the terms carnivore, herbivore and omnivore - identify the body parts head, eyes, ears, nose, mouth, shoulder, elbow, hand, finger, thumb, leg, knee, foot, toes	Plants - use the terms wild plants, garden plants and weeds - use the terms leaves, flowers, fruit, roots and stem - use the terms evergreen and deciduous	Human body and senses - know the five senses are touch, smell, taste, hearing and sight - know which body parts relate to each sense	
Year 2	Materials - correctly identify and test the properties of: wood glass plastic metal paper cardboard metal fabric rubber by squashing, bending, twisting and stretching		Animals including humans - know that animals need air, water and food for survival - know and talk about the Eatwell Guide	Plants - know the terms germination, shoot and seed dispersal - know the life cycle of a plant - know that plants need sunlight, water, nutrition and the correct temperature	Animals including humans - use and understand the terms adult, offspring, young, develop - know the human life cycle and the life cycle of some other animals	Living things and their habitats - use the terms living, dead and never living - create and use a simple food chain - know that living things in habitats depend on each other - identify different habitats
Year 3	Rocks - know and use the terms sedimentary, igneous and metamorphic - know how sedimentary, igneous and metamorphic rocks are formed - know how fossils are formed - know how soil is formed through additions, losses, transformations and translocations	Forces and Magnets - know about push and pull forces - know that friction acts on a moving object - know some magnetic and non-magnetic objects - know that magnets will attract the opposite pole and repel the same pole		Light - know that light comes from a source - know that reflection is when light hits a surface and bounces back - know a shadow is caused when light is blocked - know and use the terms transparent, translucent and opaque	Animals including humans - know different types of nutrients: carbohydrates, protein, fibre, fats, vitamins, minerals and water - know which food supply us with which nutrients - know skeletons are for protection, movement and support - know muscles are used to move bones by relaxing and contracting - know and use the terms vertebrate and invertebrate - know invertebrates have either an exoskeleton or hydrostatic skeleton	Plants - know the function of the roots, stem, leaves and flowers - know the life cycle of a flowering plant using germination, growing, pollination, fertilisation, seed formation and seed dispersal - know the function of the petal, stamen, carpel

<p>Year 4</p>	<p>Sound</p> <ul style="list-style-type: none"> - know sound is created by vibration - know that we hear because the vibrations travel to our ear - know that sound changes with distance, pitch and volume 	<p>Electricity</p> <ul style="list-style-type: none"> - know what an electrical conductor and insulator is - know how to construct a simple circuit - know some everyday electrical appliances 	<p>Animals including humans</p> <ul style="list-style-type: none"> - know the function of oesophagus, stomach, small intestine, large intestine and rectum in the digestive system - know that there are incisor, canine, premolar and molar teeth and know their function - construct a detailed food chain using the terms producer, predator, prey, primary, secondary and tertiary consumer 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> - know the 7 life processes: Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition - know how to use and create a classification key - know that changes in the environment can cause positive or negative effects on living things 	<p>States of matter</p> <ul style="list-style-type: none"> - know and understand the terms solid, liquid and gas - know that when a solid is heated it changes to a liquid then a gas - know and use the terms evaporation and condensation - know the water cycle using the terms evaporation, condensation and precipitation
<p>Year 5</p>	<p>Forces</p> <ul style="list-style-type: none"> - know that gravity is a pulling force - know that friction acts on two objects trying to move across each other - know that air resistance and water resistance push against a moving object - know that pulleys and gears can be used to the effect of the force 	<p>Earth and Space</p> <ul style="list-style-type: none"> - know that the Sun and the planets make up the solar system - know that the planets orbit the Sun - know the Moon orbits the Earth - know that the Earth's movement creates night and day and the sun moving across the sky 	<p>Materials</p> <ul style="list-style-type: none"> - know that sieving, filtering and evaporating are reversible changes - know that burning is an irreversible change - know a solution is made through dissolving - know how to separate some materials - recognise properties such as conductivity, hardness, flexibility, magnetism, transparency and solubility 	<p>Animals including humans</p> <ul style="list-style-type: none"> - know the function of the heart, arteries, veins and capillaries - know that blood is oxygenated by the lungs before travelling to the body - know that blood returning to the heart is deoxygenated - know that blood transports gases, nutrients (including water) and waste products - know how diet and lifestyle choices have a negative or positive effect on the body 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> - know that mammal offspring develop inside their mothers - know amphibians and birds lay eggs - know some animals go through metamorphosis - know that some plants need to be fertilised and some use asexual reproduction
<p>Year 6</p>	<p>Light</p> <ul style="list-style-type: none"> - know light travels in straight rays or beams - know that light travels from its source, bounces off an object and then to the eye - know that light can be separated into the colours of a rainbow - know that a shadow is the same shape as the object 	<p>Electricity</p> <ul style="list-style-type: none"> - know that more batteries create a higher voltage - know what will make a bulb brighter or dimmer and a buzzer louder or quieter - draw a circuit diagram using the correct symbols for a cell, battery, bulb, buzzer, motor and switch (open/closed) 	<p>Evolution and inheritance</p> <ul style="list-style-type: none"> - know offspring inherit traits from their parents - know there is variation between parents and offspring - know some traits are adaptive - know that fossils provide us with evidence from the past - know and understand the term natural selection 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> - know that living things can be classified in 8 levels - know that Carl Linnaeus created the Linnaeus System to classify living things - know that microorganisms are bacteria, viruses, yeast and moulds - know that some microbes can be harmful and some can be helpful 	<p>Animals including humans</p> <ul style="list-style-type: none"> - know how humans grow using the terms fertilisation, prenatal, infancy, childhood, adolescence, adulthood - know the changes that happen to the body in adolescence