Boyton Science Overview

		Autumn 1 Civilisation and Democracy	Autumn 2 Culture	Spring 1 All Around the World	Spring 2 Exploration and Discoveries	Summer 1 Natural Wonder	Summer 2 Community
EYFS (One year rolling programme)		What and who's around me?	What's that sound?	How do things change?	How do we get there?	How does it grow?	What's over there?
		Animals, including humans		**Materials**		**Plants / Seasonal changes**	
		• To identify animals and parts of the body and senses. • To sort and classify animals in different ways.		• Use all their senses in hands-on exploration of natural materials. (EYFS) • Explore collections of materials with similar and/or different properties(EY) • Talk about the differences between materials and changes they notice (EY) • Explore collections of materials with similar and/or different properties (EY)		• Plant seeds and care for growing plants. (UTW 3-4 EYFS) • Understand the key features of the life cycle of a plant and an animal. (UTW 3-4 EYFS) • Explore the natural world around them, making observations and drawing pictures of animals and plants. (UTW ELG EYFS) • Understand the effect of changing seasons on the natural world around them (UTW Reception EYFS) • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter (UTW ELG EYFS)	
KS1 Cycle A	**Area of focus** **Plymouth Science Unit**	**Animals, including humans** Animals, Humans and Staying Healthy		**Everyday Materials / Uses of everyday materials** Material World		**Plants / Seasonal changes** Looking after Plants	
	NC content	I can describe the importance for humans of exercise, eating the right amounts if different types of food and hygiene. I can identify and name a variety of common animals that are carnivores, herbivores and omnivores. (A.Y1) I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (A.Y1) LO: I notice that animals including humans have offspring which grow into adults. (A.Y2) LO: I notice that animals including humans have offspring which grow into adults. (L.Y2)		I can distinguish between an object and the material from which it is made. I can identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. I can describe the simple properties of a variety of everyday materials. I can compare and group together a variety of everyday materials on the basis of their simple properties.		Identify and name a variety of common wild and green plants, including deciduous and evergreen trees Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy To observe changes across four seasons. To observe and describe weather associated with the seasons and how day length varies.	
KS1 Cycle B	**Area of focus** **Plymouth Science Unit**	**Animals, including humans / Living Things and their habitats** **Animal Safari**		**Everyday Materials / Uses of everyday materials** **Changing Materials**		**Plants / Seasonal changes** **How does your garden grow?**	
	NC content	Pupils should be taught to: To identify and name a variety of common animals including fish, amphibians, reptiles, birds, and mammals. To identify and name a variety of common animals that are carnivores, herbivores, and omnivores.		To distinguish between an object and the material from which it is made. To identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. To describe the simple properties of a variety of everyday materials.		To identify and describe the basic structure of a variety of common flowering plants including trees. To identify and name a variety of common wild and garden plants including deciduous and evergreen trees. Observe and describe how seeds and bulbs grow into mature plants.	

		To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, and mammals including pets) To explore and compare the differences between things that are living, dead, and things that have never been alive. To identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. To identify and name a variety of plants and animals in their habitats, including microhabitats. To notice that animals have offspring which grow into adults. To find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	To compare and group together a variety of everyday materials on the basis of their simple properties. To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	

		Boyton Science Overview – Chestnuts					
		Autumn 1 **Civilisation and Democracy**	**Autumn 2** **Culture**	**Spring 1** **All Around the World**	**Spring 2** **Exploration and Discoveries**	**Summer 1** **Natural Wonder**	**Summer 2** **Community**
LKS2 Cycle A	**Area of focus / Plymouth Science Unit**	**Living Things and their habitats** **Plants** Nurturing Nature		**Rocks** Archaeology		**Light and Sound** Movie Magic	
	NC content	To identify and describe the functions of different parts of a flowering plant. To explore the requirements of plant life and growth. To investigate the way in which water is transported within plants To explore the part that flowers play in the lifecycle of flowering plants including pollination, seed formation and seed dispersal. Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group. Identify and name a variety of living things in the environment. Recognise that environments can change and this can sometimes pose dangers to living things.		To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To describe in simple terms how fossils are formed when things that have lived are trapped within rock. To recognise that soils are made from rock and organic matter. Identify that humans and some other animals have skeletons for support, protection and movement Identify different teeth in humans and name their functions. Compare teeth of carnivores and herbivores, and suggesting reasons for differences		To recognise we need light in order to see things and that dark is the absence of light Light is reflected from surfaces Recognise that light from the sun can be dangerous and that there are ways to protect your eyes. Recognise that shadows are formed when light from a source is blocked by an opaque object. Find patterns in the way that the shadows change. To identify how sounds are made, associating some of them with something vibrating. (Vibration stations) Recognise that vibrations from sounds travel through a medium to the ear. (String phones) Find patterns between pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sound gets fainter as the distance from the sound source increases	
LKS2 Cycle B	**Area of focus Plymouth Science Unit**	**Animals including humans** Amazing Human Body		**States of Matter** From Amazon to Antarctica		**Forces and Magnets** How Stuff Works	
	NC content	To identify that humans and some other animals have skeletons and muscles for support, protection and movement. To 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. To describe the simple functions of the digestive system in humans To identify different teeth in humans and name their functions To know how top keep my teeth healthy To construct and interpret a variety of food chains identifying producers, predators and prey by examining animal faeces.		Compare and group materials together, according to whether they are solids, liquids or gases 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 Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things. Construct and interpret a variety of food chains, identifying producers, predators and prey.		identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers 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 Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit Recognise some common conductors and insulators, and associate metals with being good conductors. Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. 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.	

				Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.
UKS2 Cycle A	**Area of focus/ NC Plymouth Science Unit**	**Properties and changes of materials** **Earth and Space** Out of this World	**Living Things and their habitats** Living and Growing	**Forces** Engineering
	NC content	Compare and group together everyday materials based on their properties, including hardness, solubility, transparency, conductivity and response to magnets. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solid, liquid and gas to decide how mixtures might be separated including through filtering, sieving and evaporation. Give reasons based on evidence from comparative tests for the particular uses of everyday materials including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials and this kind of change is not usually reversible including changes associated with burning and the action of acid on bicarbonate of soda. Describe the movement of the Earth and other planets, relative to the sun in the solar system. Describe the movement of the moon relative to the Earth. Describe the Sun, Earth and Moon as approximate spherical bodies. Use Earth rotation to explain day and night due to the apparent movement of the sun across the sky.	Describe the differences in life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals Describe the changes as humans develop to old age Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. (The act of gravity on our lives) Identify the effects of air resistance, water resistance and friction, which act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
UKS2 Cycle B	**Area of focus/ Plymouth Science Unit**	**Light** **Electricity** Bright Sparks	**Evolution and Inheritance** Following Darwin's Footsteps	**Animals including Humans** Healthy Body, Healthy Mind
	NC content	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 they give out or reflect light into the eye 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. To compare and give reasons for variations in how components function, including the brightness of bulbs,	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	Identify the main parts of the human circulatory system and describe the function of the heart, blood vessels and blood. Describe the ways in which nutrients and water and transported within animals including humans. Recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function. Understand the term 'food group' and 'balanced diet'. Understand the importance of a balanced diet. Understand the importance of a healthy body and a healthy mind.

		the loudness of buzzers and the on/off position of switches. Aassociate 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		