



Science - Castleway Primary School
Curriculum Long Term Plan

	Autumn		Spring		Summer	
Year 1	Everyday Materials Distinguish between an object and the material that it is made from Explain the materials that objects are made from Name wood, plastic, glass, metal, water and rock Group objects based on the materials that they are made from Describe properties of everyday materials	Human Senses Name the parts of the human body that I can see Link the correct part of the human body to the sense	Seasonal changes Observe and comment on changes in the seasons Name the seasons and suggest the type of weather for each season		Plant Parts Name a variety of common wild and garden plants Name petals, stem, leaf and root of a plant Name the roots, trunk, branches and leaves of a tree	Animal parts Sort animals into categories (including fish, amphibians, reptiles, birds and mammals) Sort living and non-living things Name a variety of animals including fish, amphibians, reptiles, birds and mammals Classify and name animals by what they eat (carnivore, herbivore and omnivore)
Year 2	Human survival Describe why exercise, a balanced diet and good hygiene are important to humans	Habitats Identify things that are living, dead and never lived Describe how a specific habitat provides for the basic needs of living things there (plants and animals) Identify and name plants and animals in a range of habitats Match living things to their habitats Describe how animals find their food	Uses of Materials Explore how shapes can be changed by squashing, bending, twisting and stretching Identify and name a range of materials including wood, metal, plastic, glass, brick, rock, paper and cardboard Suggest why a material might or might not be used for a specific job	Plant Survival Describe how seeds and bulbs grow into plants Describe what plants need in order to grow and stay healthy (water, light, suitable temperature)	Animal Survival Explain the basic stages in life cycle for animals including humans Describe what animals and humans need to survive	
Year 3	Animals including humans Explain the importance of a nutritious, balanced diet Explain how nutrients, water and oxygen are transported within animals and humans Describe and explain the skeletal system of a human Describe the purpose of the skeleton in humans and animal		Forces and magnets Explore and describe how objects move on different surfaces Explain how some forces require contact and some do not, giving examples Explore and explain how objects attract and repel in relation to objects and other magnets Predict whether objects will be magnetic and carry out an enquiry to test this out Describe how magnets work and predict whether magnets will attract or repel and give a reasons Rocks and soils are covered in the main project Rocks, Relics and Rumbles		Plant Nutrition and Reproduction Describe the plant life cycle, especially the importance of flowers Describe seed dispersal & plant differences Describe the function of different parts of flowering plants and trees Explore and describe the needs of different plants for survival Explore and describe how water is transported within plants	Light Describe what dark is (the absence of light) Explain that light is needed in order to see Explain that light is reflected from a surface Explain and demonstrate how a shadow is formed Explore shadow size and explain Explain the danger of direct sunlight and describe how to keep it protected

Year 4	<p>Digestive system</p> <p>Identify and name the parts of the human digestive system</p> <p>Describe the functions of the organs in the human digestive system</p> <p>Identify and describe the different types of teeth in humans</p> <p>Describe the functions of different human teeth</p> <p>Use food chains to identify producers, predators and prey</p>	<p>Sound</p> <p>Describe how sound is made</p> <p>Explain how sound travels from a source in our ears</p> <p>Explain the place of vibration in hearing</p> <p>Explore the correlation between pitch and the object producing a sound</p> <p>Explore the correlation between the volume of a sound and the strength of the vibrations that produced it</p>	<p>States of Matter</p> <p>Group materials based on their state of matter (solid, liquid, gas)</p> <p>Describe how some materials can change state</p> <p>Explore how materials change state</p> <p>Measure the temperature at which materials change state</p> <p>Describe the water cycle</p> <p>Explain the part played by evaporation and condensation in the water cycle</p>	<p>Grouping and Classifying</p> <p>Group living things in different ways</p> <p>Use classification keys to group, identify and name living things</p> <p>Use classification keys to group, identify and name living things for others to use</p>	<p>Electricity</p> <p>Can identify and name appliances that require electricity to function</p> <p>Can construct a series circuit</p> <p>Can identify and name the components in a series circuit (including cells, wires, buzzers, switches and bulbs)</p> <p>Can draw a circuit diagram</p> <p>Predict and test whether a lamp will light within a circuit</p> <p>Describe the function of a switch in a circuit</p>
Year 5	<p>Forces and Mechanisms</p> <p>Explain what gravity is and its impact on our lives</p> <p>Identify and explain the effect of air resistance</p> <p>Identify and explain the effect of water resistance</p> <p>Identify and explain the effect of friction</p>	<p>The Earth and Space</p> <p>Describe and explain the movement of the Earth and other planets relative to the Sun</p> <p>Describe and explain the movement of the moon relative to the Earth</p> <p>Explain and demonstrate how night and day are created</p>	<p>Human Reproduction and Ageing</p> <p>Describe the life cycle of different living things e.g. mammal, amphibian, insect, bird.</p> <p>Describe the differences between life cycles</p> <p>Describe the process of reproduction in animals</p> <p>Create a timeline to indicate stages of growth in humans</p>		<p>Properties and the changes of materials</p> <p>Know and demonstrate that some changes are reversible</p> <p>Explain how some changes result in the formation of a new material and that is usually irreversible</p> <p>Discuss reversible and irreversible changes</p> <p>Give evidenced reasons why materials should be used for a specific purpose.</p> <p>Compare and group materials based on their properties</p> <p>Describe how a material dissolves in a solution; explaining the process of dissolving</p> <p>Describe and show how to recover a substance from a solution</p> <p>Describe how some materials can be separated</p> <p>Demonstrate how materials can be separated (eg through filtering, sieving and evaporating)</p>
Year 6	<p>Circulatory System</p> <p>Identify and name the main parts of the human circulatory system</p> <p>Describe the function of the heart, blood vessels and blood.</p>		<p>Electrical Circuits and Components</p> <p>Explain how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer</p> <p>Compare and give reasons for why components work and do not work in a circuit</p> <p>Classification is covered in the main project Frozen Kingdom</p>		<p>Light Theory</p> <p>Explain how light travels</p> <p>Explain and demonstrate how we see objects</p> <p>Explain why shadows have the same shape as the object that casts them</p> <p>Explain how simple optical instruments work e.g. periscope, binoculars, mirror, magnifying glass etc...</p> <p>Evolution and Inheritance</p> <p>Describe how the Earth and living things have changed over time</p> <p>Explain how fossils can be used to find out about the past</p> <p>Explain about reproduction and offspring (recognising that offspring normally vary and are not identical to parents)</p> <p>Explain how animals and plants are adapted to suit their environment</p> <p>Link adaptation over time to evolution</p>