

Long Term Planning

Curriculum Area: Science

Stanton St Quintin
Primary School & Nursery



	Autumn Term	Spring Term	Summer Term
EYFS	<p>The Natural World ELGs-</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter</p>		
KS1 Cycle A	<p>Everyday materials</p> <p>How do we sort materials? Which material is best for armour? A castle window? A drawbridge? How can we carry out a fair test?</p> <p>Overall outcome: Can we design, make and test a drawbridge or armour? N/C(Y1): distinguish between an object and the material from which it is made. N/C(Y1): identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. N/C(Y1): describe the simple physical properties of a variety of everyday materials. N/C(Y1): compare and group together a variety of everyday materials on the basis of their simple physical properties. N/C(Y2): identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. N/C(Y2): find out how the shapes of solid objects made from some materials can be</p>	<p>The Human Body</p> <p>Can you name the different parts of the human body? Can you explore Linda Buck and how she discovered the sense of smell?</p> <p>Overall Outcome: Can I design an experiment to test my sense of smell?</p> <p>Scientific inventors 'If you were an Engineer what would you do?' Leaders Award N/C(Y1): identify, name, draw and label basic parts of the human body.</p> <p>Animals including humans Can we name and identify a variety of common animals? Can we sort animals into their groups? Which animals are carnivores, herbivores or omnivores? Can we compare the structure of different animals? Which animals do we keep as pets?</p>	<p>Plants</p> <p>Can we explore how things grow and what plants need to enable growth? Can we explain that different plants thrive in different environments?</p> <p>Overall outcome: Can we design and plant a sensory garden in the school outdoor area using our knowledge of plants? N/C(Y2): Observe and describe how seeds and bulbs change.</p> <p>Living things and their Habitats Can we identify the difference between things that are living, dead, and things that have never been alive? Can we explain why different animals live in different places? Can we create food chains? Overall Outcomes: Can we create a new animal using feature of different animal that would survive in different conditions?</p>

	<p>changed by squashing, bending, twisting and stretching.</p> <p>Exploring seasonal change What are the obvious signs of seasons changing? What are the hidden signs? How can we record our observations? Overall outcome: Can we design our own ways to observe and record seasonal change?</p> <p>N/C Science (Y1): observe changes across the four seasons. Observe and describe weather associated with the seasons.</p>	<p>What would be the problem with keeping some animals as pets? What are the basic needs of animals to survive? Overall outcome: Can we create an informative animal fact file to interest and inform my reader to better understand animals in the wild? N/C(Y1): Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals.</p>	<p>N/C(Y2): explore and compare the differences between things that are living, dead and things that have never been alive.</p>
<p>KS1 Cycle B</p>	<p>Everday Materials (including the John McAdam’s invention of tarmac- If tarmac had been invented earlier, would this have been better for roads during the Great Fire of London?) N/C(Y1): distinguish between an object and the material from which it is made/ N/C(Y1): identify and name a variety of everyday materials, including wood, plastic, glass, metal, wood and rock. N/C(Y1): describe the simple physical properties of everyday materials. N/C(Y1) compare and group together a variety of everyday materials on the basis of their simple properties. N/C(Y2) identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. N/C(Y2): find out how the shapes of solid objects made from some materials can be</p>	<p>Living things and their Habitats (Australian rainforest habitat) N/C(Y2) explore and compare the differences between things that are living, dead and things that have never been alive. N/C(Y2): 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. N/C(Y2): Identify and name a variety of plants and animals in their habitats including microhabitats. N/C(Y2): 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.</p> <p>Living things and their Habitats (oceans, seas and river habitats) N/C(Y2): identify that more living things live in habitats to which they are suited and describe how</p>	<p>The Human Body (Linda Buck and the sense of smell) N/C(Y1): identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense. N/C(Y2): notice that animals, including humans, have offspring which grow into adults.</p> <p>Animals including humans N/C(Y1): identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals. N/C(Y1): identify and name a variety of common animals that are carnivores, herbivores and omnivores. N/C(Y1): describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pet) N/C(Y2): find out and describe the basic needs of animals for survival (water, food and air)</p>

	<p>changed by squashing, bending, twisting and stretching.</p> <p>Seasons/weather N/C(Y1): observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.</p>	<p>different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.</p> <p>N/C(Y2) identify and name a variety of plants and animals in their habitats, including microhabitats. N/C(Y2): 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.</p>	
<p>KS2 Cycle A</p>	<p>States of matter Y4</p> <ul style="list-style-type: none"> 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 (°C) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. <p>Properties and changes of materials</p> <ul style="list-style-type: none"> 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 know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance 	<p>Animals, including humans Y3</p> <ul style="list-style-type: none"> 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 identify that humans and some other animals have skeletons and muscles for support, protection and movement. <p>Y5</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age. <p>Living things and their habitats Y4</p> <ul style="list-style-type: none"> 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 their local and wider environment 	<p>Forces and Magnets Y3</p> <ul style="list-style-type: none"> 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. <p>Light Y3</p> <ul style="list-style-type: none"> recognise that they need light in order to see things and that dark is the absence of light notice that light is reflected from surfaces

	<p>from a solution ☒ use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <ul style="list-style-type: none"> • give reasons, based on evidence from comparative and fair 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 that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. 	<ul style="list-style-type: none"> • recognise that environments can change and that this can sometimes pose dangers to living things. 	<ul style="list-style-type: none"> • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by an opaque object • find patterns in the way that the size of shadows change.
<p>KS2 Cycle B</p>	<p>Electricity Y4</p> <ul style="list-style-type: none"> • 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 	<p>Sound Y4</p> <ul style="list-style-type: none"> • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the 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 sounds get fainter as the distance from the sound source increases. <p>Rocks Y3</p>	<p>Evolution and inheritance Y6</p> <ul style="list-style-type: none"> • 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 <p>Earth and space</p>

	<ul style="list-style-type: none"> • whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors. 	<ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter 	<p>Y5</p> <ul style="list-style-type: none"> • 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 approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
<p>KS2 Cycle C</p>	<p>States of matter Y4</p> <ul style="list-style-type: none"> • 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 (°C) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. <p>Properties and changes of materials</p> <ul style="list-style-type: none"> • 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 	<p>Animals, including humans Y4</p> <ul style="list-style-type: none"> • describe the simple functions of the basic parts of the digestive system in humans • identify the different types of teeth in humans and their simple functions • construct and interpret a variety of food chains, identifying producers, predators and prey. <p>Y6</p> <ul style="list-style-type: none"> • describe the changes as humans develop to old age • 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 • identify that humans and some other animals have skeletons and muscles for support, protection and movement. <p>Living things and their habitats</p>	<p>Forces and Magnets Y5</p> <ul style="list-style-type: none"> • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces • recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect <p>Light Y6</p> <ul style="list-style-type: none"> • 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

	<ul style="list-style-type: none"> • 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 solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair 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 that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. 	<p>Y6</p> <ul style="list-style-type: none"> • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals <p>Y5</p> <ul style="list-style-type: none"> • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals 	<p>from light sources to objects and then to our eyes</p> <ul style="list-style-type: none"> • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
KS2 Cycle D	<p>Plants Y3</p> <ul style="list-style-type: none"> • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • 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 • investigate the way in which water is transported within plants 	<p>Sound Y4</p> <ul style="list-style-type: none"> • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the 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. 	<p>Evolution and inheritance Y6</p> <ul style="list-style-type: none"> • 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

	<ul style="list-style-type: none"> • explore the part that flowers play in the life <p>Electricity</p> <p>Y6</p> <ul style="list-style-type: none"> • associate 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 	<ul style="list-style-type: none"> • recognise that sounds get fainter as the distance from the sound source increases. <p>Rocks</p> <p>Y3</p> <ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter 	<ul style="list-style-type: none"> • identify how animals and plants are adapted to suit their environment in different ways and that <p>Earth and space</p> <p>Y5</p> <ul style="list-style-type: none"> • 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 approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
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