



"Make your light shine so others will see the good that you do"



North Somercotes CE Primary School

Whole School Science Planning and Progression

	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Block 1 (Double)	<u>Understanding the world</u> - sight, hearing, touch, natural, man-made, soft, hard, smooth, rough, range of colours ✓ talk about the features of their own immediate environment and how environments might vary from one another.	<u>HUMANS - What makes us human?</u> -eye, ear, nose, mouth, hand -see, hear, smell, taste, touch -arm, elbow, leg, knee, head, neck, back, chest -baby, child, teenager, adult, offspring ✓ identify, name, draw and label the basic parts of the human body ✓ say which part of the body is associated with each sense ✓ notice that animals, including humans,	<u>HUMAN HEALTH - Healthy Humans</u> -survive, water, food, shelter, air -exercise, muscles, heart -eating, diet, vegetables, meat, sugar, fat -hygiene, clean, germs, sweat ✓ find out about and describe the basic needs of animals, including humans, for survival ✓ describe the importance of exercise for humans ✓ describe the importance of eating the right amounts of	<u>HUMAN HEALTH - Human nutrition</u> -protein, carbohydrates, fat, sugar, vitamins, minerals -skeleton, muscle, bone, protect, support, move -skull, rib, spine ✓ identify that animals, including humans, need the right types amount of nutrition ✓ understand that humans get nutrition from what they eat ✓ understand the role of the skeleton and muscles	<u>HUMANS - Digestion System</u> - mouth, tongue, teeth, oesophagus, stomach, small intestine, large intestine, anus - incisors, canines, molars ✓ identify the different types of teeth in humans and their simple functions ✓ identify and name the basic parts of the digestive system in humans ✓ describe the simple functions of the digestive organs	<u>HUMAN HEALTH - Healthy lifestyles</u> - diet, balanced, portions - exercise, fitness, injury - drugs, medicine, illegal, alcohol, nicotine -lifestyle, sleep, recreation ✓ describe the changes as humans develop to old age ✓ recognise the impact of diet on the way their bodies function ✓ recognise the impact of exercise on the way their bodies function	<u>HUMANS - Circulatory System</u> - heart, blood, vessels, veins, arteries, valve - oxygenated, deoxygenated, respiration - exercise, pulse ✓ identify and name the main parts of the human circulatory system ✓ describe the functions of the heart , blood vessels and blood ✓ describe the ways in which nutrients and water are transported within humans.



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		have offspring which grow into adults	different types of food for humans ✓ describe the importance of hygiene for humans			✓ recognise the impact of drugs on the way their bodies function ✓ recognise the impact of lifestyle on the way their bodies function	
Block 2 (Double)	<u>Understanding the world</u> - habitat, warm, cosy, camouflage, shelter ✓ know about similarities and differences in relation to places, objects, materials and living things. ✓ talk about the features of their own immediate environment and how environment s might vary	<u>EARTH & BEYOND = Seasonal changes</u> -Summer, Spring, Autumn, Winter, -sun, day, moon, night, light, dark -rain, sunshine, snow, cloud, wind ✓ observe changes across the four seasons ✓ observe and describe weather associated with the seasons ✓ observe how day length varies.	<u>HABITATS – Habitats</u> -names of a variety of plants and animals -woodland, pond, desert, forest, field -energy, food chain, predator, prey ✓ identify and name a variety of plants and animals in their habitats , including micro-habitats ✓ identify that most living things live in habitats to	<u>PROPERTIES OF MATERIALS – Rocks</u> - igneous, basalt, quartz, granite, pyrite - sedimentary, slate, sandstone, flint, chalk - metamorphic, marble, galena - hard, soft, permeable, - fossil, organic, soil ✓ compare different kinds of rocks on the basis of their appearance and simple physical properties ✓ group together	<u>SOUND – Sound</u> - sound, speaker, vibration, sound wave - volume, pitch, tone ✓ 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	<u>EARTH & BEYOND - Earth and space</u> -Earth, sun, moon and planets -orbit, spherical, axis, rotation, revolution -day, night, seasons, tide, globe ✓ describe the movement of the Earth relative to the Sun in the solar system ✓ describe the movement of the and other planets relative to the Sun in	<u>HABITATS - Adaptation</u> -parents, offspring, reproduce, genetics -evolution, adaptation, extinction, suited ✓ recognise that living things produce offspring of the same kind, ✓ recognise that normally offspring vary and are not identical to their parents



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	from one another. ✓ make observations of animals and plants and explain why some things occur, and talk about changes.		which they are suited ✓ describe how different habitats provide for the basic needs of different kinds of animals & plants ✓ describe how animals obtain their food from plants and other animals (simple food chains) ✓ identify and name different sources of food for animals ✓ explain how animals & plants depend on each other	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	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 <u>LIGHT - Making shadows</u> - light, dark, shadow - mirror, reflect - transparent, opaque, translucent ✓ recognise that they need light in order to see things and that dark is	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. <u>FORCES – Resistance</u> -gravity, Newton -air resistance, water resistance, friction, - drag, up thrust, mass ✓ explain that unsupported objects fall	✓ recognise that living things have changed over time ✓ recognise that fossils provide information about living things that inhabited the Earth millions of years ago ✓ identify how plants are adapted to suit their environment in different ways ✓ identify how animals are adapted to suit their environment in different ways
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					- the absence of light ✓ notice that light is reflected from surfaces ✓ 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 a solid object ✓ find patterns in the way that the size of shadows change	towards the Earth because of the force of gravity acting between the Earth and the falling object ✓ identify the effects of air resistance ✓ identify the effects of water resistance ✓ identify the effects of friction	
Block 3 (Double)	<u>Understanding the world</u> -animal, fish, bird, reptile, amphibian	<u>PROPERTIES OF MATERIALS – Materials</u> -hard, soft, smooth, rough	<u>PROPERTIES OF MATERIALS – Use of everyday materials</u> -push, pull, twist, squash, stretch	<u>FORCES – Magnets</u> -magnetic, force, poles, contact - push, pull, attract, repel	<u>ELECTRICITY - Building circuits</u> - cell, battery, wire, switch, buzzer, bulb	<u>LIGHT - How we see</u> -eye, pupil, iris, lens, retina, optic nerve - light source, reflector, light waves	<u>FORCES – Mechanics</u> -mechanism, gear, pulley, lever ✓ recognise that some



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	✓ know about similarities and differences between themselves and others, and among families, communities and traditions. ✓ make observations of animals and plants and explain why some things occur, and talk about changes ✓ They talk about the features of their own immediate environment and how environments might vary from one another.	<i>-shiny, dull, see through, sparkly</i> <i>-stretchy, stiff, bendy, waterproof, absorbent</i> ✓ distinguish between an object and the material from which it is made ✓ identify and name a variety of everyday material, including wood, plastic, glass, metal, water, and rock ✓ describe the simple physical properties of a variety of everyday materials ✓ compare variety of everyday materials on the basis of their simple	✓ identify how suitable different materials are for different uses ✓ compare how suitable different materials are for different uses ✓ find out which materials can change shape when a force is used on them	✓ 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 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	<i>- circuit, conductor, insulator</i> ✓ identify common appliances that run on electricity ✓ construct a simple series electrical circuit, ✓ identifying and naming its basic parts of a circuit, 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	✓ understand the idea that light travels in straight lines ✓ 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 ✓ explain why shadows have the same shape as the objects that cast them.	mechanisms allow a smaller force to have a greater effect. ✓ observe and explain the effect of gears ✓ observe and explain the effect of levers ✓ observe and explain the effect of pulleys
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		✓ physical properties group together a variety of everyday materials on the basis of their simple physical properties		✓ observe how magnets attract or repel each other ✓ describe magnets as having two poles ✓ predict whether two magnets will attract or repel each other, depending on which poles are facing. ✓	✓ 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		
Block 4 (Double)	<u>Understanding the world</u> -plants, flowers, soil, tractor, combine, plough, cow, water, sunlight ✓ Understand some important processes and changes	<u>ANIMALS - Describing animals</u> -fish, reptiles, mammals, birds, amphibians (+ examples of each) -herbivore, omnivore, carnivore -scales, feathers, fur, skin -wings, beak, tail -living, dead	<u>PLANTS - Trees and plants</u> -deciduous, evergreen -leaves, flowers, root, stem, trunk, branches -fruit, seed, bulb -names of common trees -names of a variety of common wild plants -names of garden plants	<u>ANIMALS - Grouping animals</u> -vertebrates, amphibians, birds, fish, mammals, reptiles -invertebrates, insects, crustaceans, molluscs, arachnids -food chain, producer, predator, prey	<u>MATERIALS - States of matter</u> -solid, liquid, gas -evaporate, condense, melt, freeze -molecules, temperature, vibrate ✓ compare and group materials	<u>MATERIALS - Properties of materials</u> -hardness, solubility, transparency, conductivity(electrical / thermal), response to magnets ✓ compare and group together everyday	<u>ELECTRICITY - Changing circuits</u> -cell, battery, wire, switch, buzzer, bulb -circuit, series, parallel, conductor, insulator -amps, volts -components, symbols, appliance ✓ associate the brightness of



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	in the natural world around them, including the seasons and changing states of matter ✓ recognise that a range of technology is used in places such as homes and schools. ✓ select and use technology for particular purposes. ✓ make observations of animals and plants and explain why some things occur, and talk about changes.	✓ explore and compare the differences between things that are living, dead, and things that have never been alive ✓ identify and name a variety of common animals including birds and mammals, fish, amphibians and reptiles, ✓ describe and compare the structure of birds and mammals fish, amphibians and reptiles ✓ explain what the words carnivore, herbivore and	✓ explain the difference between deciduous & evergreen trees ✓ identify and describe the basic structure of a variety of common flowering plants ✓ identify & describe the basic structure of trees ✓ identify and name common trees and wild plants ✓ identify and name garden plants ✓ observe and describe how seed sand bulbs grow into mature plants ✓ find out and describe how	- <i>herbivore, omnivore, carnivore</i> ✓ recognise that living things can be grouped in a variety of ways ✓ explore and use classification keys to help group ✓ construct and interpret a variety of food chains, identifying producers, predators and prey	together, according to whether they are solids, liquids or gases ✓ observe that some materials change state when they are heated or cooled ✓ measure or research the temperature at which changes happens in degrees Celsius (°C) ✓ identify the part played by evaporation and condensation in the water cycle ✓ associate the rate of evaporation with temperature	materials on the basis of their properties ✓ Observe - hardness - solubility - transparency - conductivity(electrical/ thermal) - response to magnets Refer to - know that some materials will dissolve in liquid to form a solution from changes to materials unit. Changes to materials -reversible, irreversible - soluble, solution, dissolve -separate, filter, evaporate -formation, recover ✓ know that some materials will dissolve in	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.
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		omnivore mean ✓ identify and name a variety of common animals that are carnivores, herbivores and omnivores	plants need water, light and suitable temperature.			liquid to form a solution – IN PREVIOUS UNIT ✓ 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) ✓ demonstrate that dissolving, mixing and changes of state are reversible changes ✓ explain that some changes result in the	
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						formation of new materials, and that this kind of change is not usually reversible (burning and the action of acid on bicarbonate of soda)	
Block 5 (Single)	<u>Understanding the world</u> ✓ Recognise some environments that are different to the one in which we live.	Recap learning from previous 4 blocks	Recap learning from previous 4 blocks	<u>PLANTS - Growing plants</u> -water, light, temperature, nutrient, soil -leaves, photosynthesis - stem, transport, support -root, anchorage, absorb - flower, fruit, seed, reproduce ✓ identify and describe the functions of different parts of flowering plants: ✓ explore the requirement	<u>HABITATS – Environments</u> -natural changes, flood, drought, hurricane, fire - man made changes, litter, construction, deforestation -endangered, extinct ✓ identify and name a variety of living things in their local and wider environment ✓ recognise that environments can change ✓ understand that	<u>PLANTS - Life cycles</u> -Asexual, Metamorphic ✓ 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.	<u>ANIMALS - Classifying animals and other living things</u> - -micro-organisms, bacteria, virus, fungus -characteristics, classification ✓ describe how animals are classified into broad groups according to common observable characteristics ✓ describe how micro-organisms are classified



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				s of plants for life and growth ✓ explore how the requirements vary from plant to plant ✓ investigate the way in which water is transported within plants ✓ explore the part that flowers play in the life cycles of flowering plants including pollination, seed formation and seed dispersal.	environmental change can sometimes pose dangers to living things		into broad groups according to common observable characteristics ✓ give reasons for classifying plants and animals based on specific characteristics.
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