



Science Overview

		<i>Aut 1</i>	<i>Aut 2</i>	<i>Spr 1</i>	<i>Spr 2</i>	<i>Sum 1</i>	<i>Sum 2</i>
EYFS	<i>Working Scientifically</i>	Observations over time, comparative and fair testing, identifying and classifying, pattern seeking and researching using secondary sources.					
	<i>Key Vocabulary</i>	question, answer, explore, find out, observe, equipment, sort, compare, describe, group					
	<i>Topic</i>	What makes me wonderful? Who are our superheroes?	Why do the leaves fall from the trees? Why is light so important?	Where are the wild things?	Bring in the Spring!	Out and About with Eric Carle	Under the Sea!
	<i>Key Vocabulary</i>	family, see, hear, smell, taste, touch/feel, seasons, plants, animals, wildlife, natural, habitat, fruit, vegetables, object, material, recycling, properties, waterproof, strong/weak, hard/soft					
	<i>Working Scientifically</i>	Observations over time, comparative and fair testing, identifying and classifying, pattern seeking and researching using secondary sources.					
1	<i>Key Vocabulary</i>	question, answer, observe, observing, equipment, identify, classify, sort, diagram, chart, map, data, compare, contrast, describe, group, record, table, chart					
	<i>Topic</i>	Seasonal Changes - <i>Physics</i>					
	<i>Key Vocabulary</i>	season, summer, winter, autumn, spring, day, daytime, weather, wind, rain, snow, hail, sleet, fog, sun, hot, warm, cold, deciduous, evergreen					
	<i>NC points</i>	<ul style="list-style-type: none"> • Observe changes across the 4 seasons • Observe and describe weather associated with the seasons and how day length varies 					
	<i>Topic</i>	Everyday Materials – <i>Chemistry</i>		Animals including Humans - <i>Biology</i>		Plants - <i>Biology</i>	
	<i>Key Vocabulary</i>	wood, plastic, glass, metal, water, rock, brick, paper, fabrics, elastic, foil, variety of properties (stretchy, bendy, rough, smooth, shiny, dull, waterproof, absorbent, flexible, etc.)		head, leg, eyes, neck, knees, hair, arms, face, mouth, elbows, ears, teeth, omnivore, herbivore, carnivore, senses (name them), fish, amphibians, reptiles, birds, mammals, pets		wild plants, garden plants, fruit, vegetables, bulb, seed, deciduous, evergreen, name and label parts of a plant and a tree	



	<i>NC Points</i>	<ul style="list-style-type: none"> • Distinguish between an object and the material from which it is made • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • Describe the simple physical properties of a variety of everyday materials • Compare and group together a variety of everyday materials on the basis of their simple physical properties 	<ul style="list-style-type: none"> • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Identify and name a variety of common animals that are carnivores, herbivores and omnivores • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense 	<ul style="list-style-type: none"> • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • Identify and describe the basic structure of a variety of common flowering plants, including trees 	
2	<i>Working Scientifically</i>	Observations over time, comparative and fair testing, identifying and classifying, pattern seeking and researching using secondary sources.			
	<i>Key Vocabulary</i>	question, answer, observe, observing, equipment, identify, classify, sort, diagram, chart, map, data, compare, contrast, describe, group, record, table, chart			
	<i>Topic</i>	Animals including Humans – <i>Biology</i>	Uses of Everyday Materials - <i>Chemistry</i>	Plants – <i>Biology</i>	Living things and their habitats - <i>Biology</i>
	<i>Key Vocabulary</i>	offspring, grow, adults, nutrition, reproduce, egg, chick, chicken, caterpillar, pupa, butterfly, spawn, tadpole, frog, lamb, sheep, baby, toddler, child, teenager, adult, water, food, air, exercise, hygiene	wood, metal, plastic, glass, brick, rock, paper, cardboard, rubber, waterproof, stretching, twisting, bending, squashing	wild/garden plants, water, light, grow, temperature, healthy, bulb, seed, fruit, vegetables, reproduction, germination, deciduous,	living, dead, never alive, habitats, micro-habitats, food, food chain, sun, grass, cow, human, alive, healthy logs, leaf litter, stony path, under bushes, shelter, seashore, woodland, ocean, rainforest, conditions, hot/warm/cold, dry/damp/wet, bright/shade/dark



				evergreen, name and label parts of a plant and tree		
	<i>NC Points</i>	<ul style="list-style-type: none"> Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene 	<ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy 	<p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <ul style="list-style-type: none"> 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 Identify and name a variety of plants and animals in their habitats, including microhabitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain and identify different sources of food. 	
3	<i>Working Scientifically</i>	Observations over time, comparative and fair testing, identifying and classifying, pattern seeking and researching using secondary sources.				
	<i>Key Vocabulary</i>	question, observe, describe, test, compare, similarities, differences, explain, accurate, measure, standard units, equipment, temperature, thermometer, data logger, record, results, chart, table, labelled diagrams, drawings, conclusions, predictions				
	<i>Topic</i>	Light – <i>Physics</i>	Rocks and Soils – <i>Chemistry</i>	Forces and Magnets – <i>Physics</i>	Animals including Humans - <i>Biology</i>	Plants - <i>Biology</i>
	<i>Key Vocabulary</i>	light source, see, dark, reflect, day, night, surface, natural, sun,	appearance, physical, properties, fossils, sedimentary,	Force, material, surface, push, pull, open, surface, magnet, magnetic, attract, repel, magnetic poles, north, south	nutrition, carbohydrates, protein, fats, fibre, water, vitamins,	common, wild plants, garden plants, parts of trees and plants,



		moon, shadow, blocked, solid, artificial, sunlight, opaque, transparent, translucent	metamorphic, igneous, organic matter, crystals, sandstone, granite, marble, layer, crumble, magma, lava		contact, minerals, relax, skeleton, bones, joints, muscles, endoskeleton, exoskeleton, hydrostatic, vertebrate, invertebrate	transportation, nutrients, seed formation, seed dispersal, pollination
	<i>NC Points</i>	<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 • 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 	<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"> • Compare how things move on different surfaces • Notice that some forces need contact between 2 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 2 poles • Predict whether 2 magnets will attract or repel each other, depending on which poles are facing 	<p>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.</p> <ul style="list-style-type: none"> • Identify that humans and some other animals have skeletons and muscles for support, protection and movement 	<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 • Explore the part that flowers play in the life cycle of



						flowering plants, including pollination, seed formation and seed dispersal
4	<i>Working Scientifically</i>	Observations over time, comparative and fair testing, identifying and classifying, pattern seeking and researching using secondary sources.				
	<i>Key Vocabulary</i>	question, observe, describe, test, compare, similarities, differences, explain, accurate, measure, standard units, equipment, temperature, thermometer, data logger, record, results, chart, table, labelled diagrams, drawings, conclusions, predictions				
	<i>Topic</i>	Animals including Humans – <i>Biology</i>	Living things and their Habitats – <i>Biology</i>	States of Matter – <i>Chemistry</i>	Sound – <i>Physics</i>	Electricity - <i>Physics</i>
	<i>Key Vocabulary</i>	digestion, mouth, tongue, saliva, oesophagus, transports, stomach, acid, enzymes, small intestine, water, vitamins, large intestine, teeth (incisors, canines, molars, grinding, floss, brush), food chain, producers, prey, predators	environment, environment, dangers, human impact, vertebrates, invertebrates, flowering plants, non-flowering plants	liquid, solid, gas, condense, heated, cooled, freezing, heating, melting, degrees, thermometer, water cycle, evaporation, condensation, temperature, water vapour	vibrate, ear, sound, pitch, volume, faint, loud, string, percussion, woodwind, brass, insulate	appliances, electricity, circuit, cell, wire, bulb, buzzer, danger, safety, sign, insulators, conductors, switch
	<i>NC Points</i>	Describe the simple functions of the basic parts of the digestive system in humans	Recognise that living things can be grouped in a variety of ways	<ul style="list-style-type: none"> Compare and group materials together, according to whether they are solids, liquids or gases 	<ul style="list-style-type: none"> Identify how sounds are made, associating some of them with something vibrating 	<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



		<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Recognise that environments can change and that this can sometimes pose dangers to living things 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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
5	<i>Working Scientifically</i>	Observations over time, comparative and fair testing, identifying and classifying, pattern seeking and researching using secondary sources.				
	<i>Key Vocabulary</i>	planning, questions, control, variables, measurements, equipment, repeat readings, record, data, diagrams, labels, classification keys, tables, graphs, predictions, conclusions, relationships, explain, results, evidence, ideas, arguments, compare				
	<i>Topic</i>	Forces – <i>Physics</i>	Earth and Space – <i>Physics</i>	Animals including Humans – <i>Biology</i>	Living Things and their Habitats – <i>Biology</i>	Properties and changes of materials – <i>Chemistry</i>
	<i>Key Vocabulary</i>	gravity, air/water resistance,	Earth, sun, moon, planets (name	puberty, life cycle, gestation, growth,	sexual, asexual, similarities,	hardness, transparency,



		friction, surface, force, effect, move, accelerate, decelerate, brake, mechanism, pulley, gear, spring	them), stars, solar system, rotate, day, night, orbit, axis, hemisphere, season, tilt	reproduce, foetus, fertilisation, life expectancy, adolescence, adulthood, childhood	differences, life cycles, reproduction, types of animals		conductor, solubility, dissolve, separate, solution, solids, liquids, gases, evaporation, filtering, sieving, reversible, irreversible, burning, rusting, insulation, chemical
	<i>NC Points</i>	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <ul style="list-style-type: none"> Identify the effects of air resistance, water resistance and friction, that act between moving surfaces <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</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 	Describe the changes as humans develop to old age	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	<p>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> <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 	



							<p>from a solution</p> <ul style="list-style-type: none">• 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. <p>Explain that some changes results in formation of new materials an that this kind of change is not usually reversible, including changes</p>
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							in association with burning and the action of acid on bicarb.
6	<i>Working Scientifically</i>	Observations over time, comparative and fair testing, identifying and classifying, pattern seeking and researching using secondary sources.					
	<i>Key Vocabulary</i>	planning, questions, control, variables, measurements, equipment, repeat readings, record, data, diagrams, labels, classification keys, tables, graphs, predictions, conclusions, relationships, explain, results, evidence, ideas, arguments, compare					
	<i>Topic</i>	Living things and their habitats – <i>Biology</i>	Animals including Humans – <i>Biology</i>	Light – <i>Physics</i>	Evolution and Inheritance – <i>Biology</i>	Electricity - <i>Physics</i>	
	<i>Key Vocabulary</i>	compare, order, family, species, characteristics, classification, vertebrates, invertebrates, microorganisms, organism, flowering, non-flowering	internal organs, skeleton, muscle, digestive, oxygen, transport, heart rate, circulatory system, blood vessels, impact, diet, exercise, lifestyle, nutrients, water, damage, substances	reflection, object, shadows, mirrors, periscope, rainbow, spectrum, filters, light source, straight lines	evolution, fossils, adaption, inherited/adapted traits, natural selection, DNA, genes, variation, offspring, environment, habitat	voltage, brightness, volume, switches, danger, circuit, diagram, switch, bulb, buzzer, motor, symbols	
	<i>NC points</i>	<ul style="list-style-type: none"> Describe how living things are classified into broad groups according to common observable characteristics and based on 	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood	Recognise that light travels in straight lines <ul style="list-style-type: none"> 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 	<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 	<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 	



		<p>similarities and differences, including micro-organisms, plants and animals</p> <ul style="list-style-type: none">• Give reasons for classifying plants and animals based on specific characteristics	<ul style="list-style-type: none">• Recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function• Describe the ways in which nutrients and water are transported within animals including humans	<p>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	<p>kind, but normally offspring vary and are not identical to their parents</p> <ul style="list-style-type: none">• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution	<p>components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p> <ul style="list-style-type: none">• Use recognised symbols when representing a simple circuit in a diagram
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