Holy Family Catholic Primary School

Science Progression

Key-Biology, Physics, Chemistry

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals Including humans	EYFS cover many aspects of science through their own detailed curriculum. They also have a focus on early scientific skills and enquiry as part of their continuous provision.	**Unit 2 Looking at animals** **Unit 3 Using our senses**	**Unit 5 Take care** **Unit 6 Growing up**	**Unit 5 Amazing bodies**	**Unit 4 Where does all that food go?**	**Unit 1 Circle of life** **Unit 2 Reproduction h plants and animals**	**Unit 2 Body pump** **Unit 3 body health**
Overview		**Unit 2 Identify & name, look closely at, compare, contrast different animals. Link Y2** **Unit 3 Draw and label simple parts of the body-Link Y5, Y4**	**Unit 5 Healthy life style and healthy diet.** **Unit 6 Human life cycle-Link Y5**	**Unit 5 Human skeleton, muscles for support & protection. Link Y1, Y6** **Healthy eating-The range of nutrients that humans need to keep healthy**	**Unit 4 Digestive system-Link Y1, Y3, Y6**	**Unit 1 Life cycles of mammals, amphibians, insects & birds. LinkY1, Y2, Y3** **Unit 2 Reproduction in plants and animals, birds & insects.** **Human life cycle.** **Puberty in girls and boys-Link Y2**	**Unit 2 Circulatory system-link with Y4** **Unit 3 How the body uses the different food groups Link Y2,3. Drugs alcohol & smoking.** **Skeleton, muscles, respiratory system. - Link Y3**
Learning Intentions	Understanding the World: - Explore the natural world around them, making observations and drawing pictures of animals and plants. Key texts: - Waiting for Wolf - Monkey Puzzle - Hungry Caterpillar	• 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	• 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.	• 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.	• 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.	• 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; • describe the life process of reproduction in some plants and animals.	• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood; • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function; • describe the ways in which nutrients and water are transported within animals, including humans.

	- If I Had a Dinosaur - Superworm - Brown Bear - Dear Zoo - Snail and the Whale - An Arctic Story - Now You See Me - My Big Book of Dinosuars - Dear Earth - The Journey Home	body and say which part of the body is associated with each sense.					
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Vocabulary	- Animals - Herbivore - Carnivore - Features - Home - Habitat - Insect - Minibeast - Dinosaur - Arctic - North Pole South Pole	• Names of animal groups: **fish, amphibians, reptiles, birds, mammals.** • Animal diets: **carnivore, herbivore, omnivore.** • Human and animal body parts: e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills. • Human senses: **sight, hearing, touch, smell, taste.** • Exploring senses: loud, quiet, soft, rough. • Other: human, animal, pet.	• Being born and growing: **Young, offspring, live young**, grow, **develop**, change, hatch, lay, fly, crawl, talk. • Young and adult names: e.g. lamb and sheep, kitten and cat, duckling and duck. • **Life cycle** stages: e.g. baby, toddler, child, teenager, **adult;** frogspawn, tadpole, froglet, frog. • Survival and staying healthy: basic needs, survive, food, air, **exercise, diet, nutrition**, healthy, balanced diet, **hygiene, germs.** • Food groups: fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt, sugar. **Previously introduced vocabulary: water.**	• Food groups and **nutrients**: fibre, fats **(saturated and unsaturated**), vitamins, minerals. • Skeletons and muscles: skeleton, **muscles, tendons, joints,** protection, support, organs, voluntary muscles, involuntary muscles, biceps, triceps, contract, relax, bone, cartilage, shell, **vertebrate, invertebrate,** endoskeleton, exoskeleton, hydrostatic skeleton. • Names of human bones: e.g. skull, spine, backbone, vertebral column, ribcage, pelvis, clavicle, scapula, humerus, ulna, pelvis, radius, femur, tibia, fibula. • Other: **energy**. **Previously introduced vocabulary: movement.**	• Digestive system: **digest**, digestion, tongue, teeth, saliva, salivary glands, **oesophagus, stomach,** liver, pancreas, gall bladder, **small intestine,** duodenum**, large intestine, rectum,** anus, faeces, organ. • Types of teeth and dental care: **molar**, **premolar**, **incisor**, **canine**, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth. • Food chains and animal diets: decomposer, food web. **Previously introduced vocabulary: producer, consumer, prey, predator, excretion, habitat.**	• Process of reproduction: **gestation, asexual reproduction, sexual reproduction,** sperm, egg, cells, clone. • Changes and **life cycle:** embryo, foetus, uterus, **prenatal, adolescence, puberty, menstruation, adulthood,** menopause, **life expectancy,** old age, hormones, sweat. • Changing body parts: e.g. breasts, penis, larynx, ovaries, genitalia, pubic hair. **Previously introduced vocabulary: reproduction, reproduce, types of animals and animal groups, fertilisation.**	• **Circulatory system**: circulation, **heart**, pulse, heartbeat, heart rate, lungs, breathing, **blood vessels**, blood, pump, transported, **oxygenated blood, deoxygenated blood,** oxygen, arteries, veins, capillaries, chambers, plasma, platelets, white blood cells, red blood cells. • Lifestyle: **drug, alcohol,** smoking, disease, calorie, energy input, energy output. • Other: water transportation, nutrient transportation, waste products. **Previously introduced vocabulary: carbon dioxide**.

Living Things and Their Habitat	EYFS cover many aspects of science through their own detailed curriculum. They also have a focus on early scientific skills and enquiry as part of their continuous provision.	**Our changing World: Animal Antics**	**Unit 1 What is in your habitat?** **Our changing world; habitats**		**Unit 5 Human impact** **Unit 6 who am I?** **Our changing world**		**Unit 1 The nature library**
Overview		**OCW Name and identify local wildlife -animals and birds.**	**Unit 1 &Our Changing World-Identify local animal habitats and animal adaptation to their environment. Link-Y1,Y6**		**Unit 5 Positive and negative ways humans change the environment. Link Y2** **Unit 6 Identify and classify characteristics of the main vertebrate and invertebrate groups to the UK. Link-Y1, Y2**		**Unit 1 Why and how organisms are classified. Link Y1, Y2, Y4**
Learning Intentions	Understanding the World: - Explore the natural world around them, making observations and drawing pictures of animals and plants. Umbrella topic link: All Around the World Brilliant Beasts Key texts: - Waiting for Wolf - Monkey Puzzle - Hungry Caterpillar - If I Had a Dinosaur - Superworm - Brown Bear - Dear Zoo - Snail and the Whale - An Arctic Story	• identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals;	• explore and compare the differences between things that are living, dead, and things that have never been alive; • 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 and name different sources of food.		• 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; • recognise that environments can change and that this can sometimes pose dangers to living things.		• 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.

	- Now You See Me - My Big Book of Dinosuars - Dear Earth - The Journey Home						
Vocabulary	- Animals - Herbivore - Carnivore - Features - Home - Habitat - Insect - Minibeast - Dinosaur - Arctic - North Pole South Pole	**Common names for animals, birds, insects native to the UK.**	• Living or dead**: living, dead, never living,** not living, alive, never been alive, healthy. • **Habitats** including **microhabitats**: **depend,** shelter, safety, **survive**, suited, space, minibeast, air. • **Life processes:** movement, sensitivity, growth, reproduction, nutrition, excretion, respiration. • **Food chains: food sources,** food, producer, consumer, predator, prey. • Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat. **Previously introduced vocabulary: senses, carnivore, herbivore, omnivore, seed, water, names of materials.**		• Living things: **organisms, specimen,** species. • Grouping living things: **classification,** classification keys, classify, **characteristics**. • Names of invertebrate animals: snails and slugs, worms, spiders, insects. • Invertebrate body parts: e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs. • Environmental changes: **environment,** environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive species, **endangered species, extinct.** Previously introduced vocabulary: carbon dioxide, **fish, bird, mammal, amphibian, reptile**, skeleton, bone, **vertebrate, invertebrate,** backbone, names for animal body parts, names of common plants, photosynthesis.		• Classifying: Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation. • **Microorganisms**: **bacteria,** single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, **microscope**, decompose.
Materials	EYFS cover many aspects of science through their own detailed curriculum. They also have a focus on early scientific skills and enquiry as part of their continuous provision.	**Unit 4 Everyday materials** Everyday materials	**Unit 3 Materials: Good choices** **Unit 4 Materials: Shaping up**	**Unit 2 Rock detectives**	**Unit 1 In a state**	**Unit 3 Get sorted** **Unit 4 everyday materials** **Unit 5 Marvelous mixtures +** **Unit 6 Materials All change!**	

Overview		**Unit 4 Name and identify familiar materials and identify their properties.**	**Unit 3 Choosing materials for their different properties. Link-Y1** **Unit 4 Materials that can be changed by actions. Link- Y1**	**Unit 2 Core knowledge & understanding of rocks, their relationship to soils & fossils.**	**Unit 1 Characteristics of properties of solids, liquids & gasses.**	**Unit 3 Compare & classify a variety of materials by their properties & uses. Link- Y1, Y2, Y4** **Unit 4 In depth knowledge of properties of materials & how & why they are suitable for particular uses. Link- Y1, Y2,Y4** **Unit 6 How different mixtures of solids & liquids might be separated. Link-Y1, Y2, Y4,Y5**	
Learning Intention	In EYFS the workshop and art areas are a place to explore different materials and their properties. There are also a variety of different materials available for children to interact with in the inside and outside classroom environments. Key Text Links: - Tiny Seed - Hungry Caterpillar - Tree - We Found a Seed - Wooly Bear Caterpillar - Errol's Garden	Everyday Materials **Pupils should be taught to:** • 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.	Use of Everyday Materials **Pupils should be taught to:** • 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.	Rocks **Pupils should be taught to:** • 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	States of Matter **Pupils should be taught to:** • 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.	Properties and Changes of Materials **Pupils should be taught to:** • 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 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.	
Vocabulary	- Materials - Cardboard - Plastic - Glass - Paper - Soil - Growing - Changing Planting	• Names of **materials**: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric. • Properties of materials: **hard, soft, shiny, dull, stretchy**, **rough**, **smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof**, **absorbent, not absorbent,** sharp, stiff. • Other: **object.**	• Changing shape: squash, bend, twist, stretch. • **Properties** of **materials:** e.g. strong, flexible, light, hard-wearing, elastic. • Other: **suitability**, recycle, pollution.	• Types of rock**: sedimentary rock, igneous rock, metamorphic rock.** • **Properties of rocks: permeable,** semi-permeable, **impermeable,** durable. • Names of rocks: e.g. marble, chalk, granite, sandstone, slate. • Formation of rocks and fossils: natural, human-made, **magma, lava,** molten rock, **sediment, erosion, fossilisation,** layers, bone, fossil. • Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost. • Other: **palaeontology.** • **States of matter: solids, liquids, gases,** particles. • State change: **evaporate, condense, melt, freeze**, heat, cool, melting point, freezing point, boiling point, **water vapour**. • Water cycle: **precipitation**, evaporation, condensation, ground run-off, collection, underground water, bodies of	• **States of matter: solids, liquids, gases,** particles. • State change: **evaporate, condense, melt, freeze**, heat, cool, melting point, freezing point, boiling point, **water vapour**. • Water cycle: **precipitation**, evaporation, condensation, ground run-off, collection, underground water, bodies of water (sea, river, stream), water droplets, hail. • Other: atmosphere. **Previously introduced vocabulary: temperature, rain, cloud, snow, wind, sun, hot, cold, absorb, carbon dioxide**	• Properties of **materials**: thermal **conductor/insulator,** magnetism, electrical resistance, **transparency**. • Mixtures and solutions: dissolving, substance, soluble, insoluble. • Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product. • Separating: sieving, filtering, magnetic attraction. **Previously introduced vocabulary: electrical conductor/insulator, bulb, translucent.**	

				water (sea, river, stream), water droplets, hail. • Other: atmosphere. **Previously introduced vocabulary: temperature, rain, cloud, snow, wind, sun, hot, cold, absorb, carbon dioxide**			
Plants	EYFS cover many aspects of science through their own detailed curriculum. They also have a focus on early scientific skills and enquiry as part of their continuous provision.	**Unit 1 Plant Detectives** **Our changing world: Plants** **Sensing seasons**	**Unit 2 The apprentice gardener**	**Unit 1 How does your garden grow?**	**Our changing world: Classify trees, plants & flowers**	**Our Changing World**	
Overview		**Unit 1 & OCW Exploring local plants & flowers. Link Y5 Learn the simple names of parts of a plant. Link Y2, Y3, Y4. Name different trees. Observing seasonal changes. Link Y4, Y5**	**Unit 2 Growing plants from bulbs & seeds. Sequence of germination. Compare & contrast to mature plants. Link Y5**	**Unit 1 The requirements of plants for life & growth. Functions of plant parts & life cycle of a plant. Link Y1, Y2, Y4, y5**	**OCW Classify plants in the local area in different seasons. Link Y1. Functions of different parts of flowering plants & life cycle. Link Y1, Y2, Y3**	**Look at bulbs in more detail, introducing tubers & cuttings. Link- Y1, Y2, Y3, Y4**	
Learning Intentions	EYFS have access to the outdoors every day. This includes exploration of different plants and also regularly taking care of the garden by cutting back, planting and rewilding each year. Understanding the World: - Explore the natural world around them, making observations and drawing pictures of animals and plants. - Understand some important processes and changes in the	• 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. • observe changes across the 4 seasons; • observe and describe weather associated with the seasons and how day length varies.	• 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.	• 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.	• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment,	Learn about plant reproduction and extend their knowledge of the function of the different parts of flowering plants. Learn that plants can reproduce in other ways, through asexual reproduction.	

	natural world around them, including the seasons and changing states of matter. Key Text Links: - Tiny Seed - Hungry Caterpillar - Tree - We Found a Seed - Wooly Bear Caterpillar - Errol's Garden						
Vocabulary	- Soil - Growing - Changing - Planting - Plants - Flowers - Change - Beans - Seeds - Fruit Vegetables	• Names of common plants: **wild plant, garden plant, evergreen** tree, **deciduous** tree, common flowering plant, **weed,** grass. • Name some features of plants: e.g. **flower**, vegetable, **fruit**, berry, **leaf/leaves**, blossom, **petal**, **stem**, trunk, branch, **root**, **seed, bulb,** soil. • Name some common types of plant e.g. sunflower, daffodil. • **Seasons**: **spring, summer, autumn, winter**, seasonal change. • **Weather**: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. • Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge.	• Growth of plants: **germination**, **shoot, seed dispersal,** grow, food store, life cycle, die, wilt, seedling, sapling. • Needs of plants: **sunlight, nutrition,** light, healthy, space, air. • Name different types of plant: e.g. bean plant, cactus. • Names of different habitats: e.g. rainforest, desert.	• Name some features of plants: e.g. **flower**, vegetable, **fruit**, berry, **leaf/leaves**, blossom, **petal**, **stem**, trunk, branch, **root**, **seed, bulb,** soil, pollination, seed dispersal, Plant requirement: Air, light, water, nutrients, Parts of a plant in the life cycle: Pollination, seed formation, seed dispersal. **Previously introduced vocabulary: water, temperature, warm, hot, cold, habitat.**	Classifying plants: To name deciduous, ever green trees, different names of common trees, plants.	• Water transportation: transport, **evaporation, evaporate, nutrients,** absorb, anchor. • Life cycle of flowering plants: pollination (insect/wind), pollen, nectar, pollinator, seed formation, **seed dispersal** (animal/wind/water), reproduce, **fertilisation,** fertilise, **stamen,** anther, filament, **carpel (pistil),** stigma, style, ovary, ovule, **sepal**, carbon dioxide. **Previously introduced vocabulary: life cycle.**	

		• Day length: night, day, **daylight.**					
Light	EYFS cover many aspects of science through their own detailed curriculum. They also have a focus on early scientific skills and enquiry as part of their continuous provision.			**Unit 3Can you see me?**			**Unit 6 Light up your world**
Overview				**Unit 3 Learn about light sources, how light enables us to see by reflecting from objects & how different objects reflect different amounts of light & shadow. Link Y6**			**Unit 6 More detailed understanding of mirrors & the reflections that they form & apply to make a periscope. Link Y3**
Learning Intentions	EYFS explore light and shadow through regular use of light boxes. They are able to explore the concept of shadows in the summer too using the outside garden.			• 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.			• 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.
Vocabulary	Light, shadow			• **Light** and seeing: **dark,** absence of light, **light source,** illuminate, visible, **shadow, translucent,** energy, block.			• Reflection: periscope. • Seeing light: **visible spectrum, prism.**

				• **<u>Light sources:</u>** e.g. candle, torch, fire, lantern, lightning. • **<u>Reflective light:</u> reflect, reflection,** surface, **ray**, scatter, reverse, beam, angle, mirror, moon. • <u>Sun safety:</u> dangerous, glare, damage, UV light, UV rating, sunglasses, direct. **Previously introduced vocabulary: opaque, transparent, sunlight, sun.**			• <u>How light travels:</u> light waves, wavelength, straight line, **refraction.** **Previously introduced vocabulary: names and properties of materials, absorb**
Sound					**Unit 2 Good vibrations**		
					Unit 2 To develop vocabulary for describing sounds and to identify different sound sources. To learn about how sounds are made through vibrations & the process of hearing it.		
Learning Intentions					• 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.		

Vocabulary					• Parts of the **ear**: **eardrum.** • Making sound: **vibration,** vocal cords, **particles.** • Measuring sound: **pitch**, **volume, amplitude, sound wave,** quiet, loud, high, low, travel**, distance.** • Other: **soundproof, absorb sound.**		
Electricity					**Unit 3 Switched on**		**Unit 5 Danger! Low voltage**
Overview					**Unit 3 Build & investigate simple circuits. Identify electrical appliances, distinguish between mains & battery. Electricity produces light, sound, heat & movement. Link Y6**		**Unit 5 They construct circuits with an increasing number of components & contrast the effects this has on the function of components. Look at different methods & generate electricity.**
Learning Intentions					• 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.		• 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.

Vocabulary					• **Electricity:** mains-powered, battery-powered, **mains electricity,** plug, **appliances**, devices. • Circuits: **circuit,** simple series circuit, complete circuit, incomplete circuit. • Circuit parts: bulb, cell, wire, buzzer, switch, motor, **battery.** • Materials: **electrical conductor, electrical insulator.** • Other: safety. **Previously introduced vocabulary: names of materials.**		• Flow and measure of electricity: **voltage, amps, resistance, electrons**, volts (V), **current.** • Circuits**: symbol,** circuit diagram, component, function, filament. • Variations: dimmer, brighter, louder, quieter. • Types of electricity: natural electricity, human-made electricity, solar panels, power station. • Other: positive, negative.
Earth and Space	EYFS cover many aspects of science through their own detailed curriculum. They also have a focus on early scientific skills and enquiry as part of their continuous provision.					**Unit 8 The Earth and Beyond**	
Overview						**Unit 8 Develop knowledge of the Earth's place in the solar system & the Earth's relationship with the sun.**	
Learning Intentions	Understanding the World: - 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.					• 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	

	Key Text Links: - Whatever Next - Look Up!					apparent movement of the sun across the sky.	
Vocabulary	- Space - Moon - Stars - Astronaut - Meteor Shower - Sky - Universe - Planets - Earth - Sun Gravity					• Solar system: **star, planet.** • Names of planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus. • Shape: **spherical bodies, sphere.** • Movement: **rotate, axis, orbit, satellite.** • Theories: **geocentric model, heliocentric model, astronomer.** • Day length: sunrise, sunset, midday, time zone. **Previously introduced vocabulary: Sun, moon, shadow, day, night, heat, light, reflect.**	
Forces & Magnets	EYFS cover many aspects of science through their own detailed curriculum. They also have a focus on early scientific skills and enquiry as part of their continuous provision.			**Unit 4 The power of forces**		**Unit 7 Feel the force**	
Overview				**Unit 4 Explore how forces can make objects move, speed up, slow down, change direction. Compare how they move on different surfaces. Link Y5**		**Unit 7 How forces affect movement-friction, air resistance, water resistance. Learn about mechanisms-levers, pulleys, gears. Link Y3**	
Learning Intentions	EYFS have their own set of large magnets and investigate with them throughout the year. This is something that sparks a lot of interest in children and begins the			Forces and Magnets • compare how things move on different surfaces; • notice that some forces need contact between 2 objects,		Forces • explain that unsupported objects fall towards the Earth because of the force of gravity acting between	

	exploration into forces.			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.		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.	
Vocabulary	Magnets, forces,magnetic			• How things move: move, movement, **surface**, distance, strength. • Types of **forces**: push, pull, contact force, non-contact force, **friction**. • **Magnets: magnetic, magnetic field,** magnetic force, bar magnet, horseshoe magnet, ring magnet, magnetic **poles** (north pole, south pole), **attract, repel,** compass. • Magnetic and non-magnetic materials: e.g. iron, nickel, cobalt. **Previously introduced vocabulary: metal, names of materials.**		• Types of forces: **air resistance, water resistance, buoyancy, upthrust,** Earth's **gravitational pull, gravity**, opposing forces, driving force. • **Mechanisms:** levers, pulleys, gears/cogs. • Measurements: **weight, mass,** kilograms (kg), Newtons (N), scales, speed, fast, slow. • Other: **streamlined**, Earth. **Previously introduced vocabulary: air, heat, moon.**	
Evolution and Inheritance							**Unit 4 Everything changes** **Our changing world**
Overview							**Unit 4 Build on their knowledge of living things & how they are adapted to particular**

							environments. Adaption, natural selection 7 evolution. Link OCW Adaption to particular environments. Link Y5, Y6
Learning Intentions							• 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.
Vocabulary							• **Evolution** and **inheritance:** evolve, **adaptation,** inherit, **natural selection, adaptive traits, inherited traits,** mutations, theory of evolution, ancestors, biological parent, chromosomes, genes, Charles Darwin. • Other: selective breeding, artificial selection, breed, cross breeding, genetically modified food, cloning, DNA. **Previously introduced vocabulary: classification, offspring, characteristics, habitat, environment, adapt, variations, human, fossil, suited, cells, names of different habitats, names of**

							animals and their body parts, species, sedimentary rock, lava, igneous rock, metamorphic rock, magma, heat, fossilisation.
	Key Stage 1 Working Scientifically During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions			**Key Stage 2 Working Scientifically** **During years 3 and 4**, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings. **During years 5 and 6,** pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments				