

Science at Dunmore provides a wide range of inspirational learning opportunities designed to enable the children to think, question, learn and explore our rapidly changing world we live in and beyond. There is a breadth of opportunity to develop scientific thinking and questioning skills through challenging investigations which are key to developing learning and understanding for all pupils.

EYFS – Understanding the World – The Natural World







Early Learning Goals:

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- 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.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Themes	All about me Harvest Traditional Tales Autumn	Celebrations Dinosaurs Christmas	Winter Chinese New Year Space	Superheroes Spring Easter	Gardens (Plants, Minibeasts, Life cycles)	Bears Summer Holidays
How it is taught in EYFS	<ul style="list-style-type: none"> • Use senses to describe what I see, hear and feel outside. • Understand the effects of the changing seasons around me – Autumn. • Name some body parts – facial features. 	<ul style="list-style-type: none"> • Begin to understand how the natural world changes over time. • Explore extinction – what does that mean? • Endangered animals • Begin to understand the negative impact humans can have on the environment. 	<ul style="list-style-type: none"> • Compare the weather in winter to the weather in autumn. • Talk about why something freezes or melts and the changes that happen. • Make observations of animals that live in the Artic/Antarctic. What makes them special? • Explore gravity. 	<ul style="list-style-type: none"> • Talk about signs of spring and what changes there are from winter to spring. • Understand the effect of changing seasons on the natural world around me. • Make observations of plants and flowers that grow in spring. 	<ul style="list-style-type: none"> • Start to name some familiar plants. • Explore what a plant needs to help it grow. • Grow plants and look after them. • Start to name familiar insects and explore their characteristics. • Build bug hotels thinking about the habitats of different insects. • Forest School • Understand what a life cycle is through observing changes to tadpoles. 	<ul style="list-style-type: none"> • Compare the weather in summer to the weather in spring. • Look back over the 4 seasons and compare. • Where do bears live? Explore habitats and compare with our own environment. • Bird watching – set up bird hides and encourage children to identify common birds.
Early Years Curriculum	<ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel whilst outside. • Recognise some environments that are different from the one in which they live • Understand the effect of changing seasons on the natural world around them. 					

Working Scientifically	Exploring the natural world Noticing changes Predicting what might happen next Recording data (pictures/simple tallies)					
Key vocabulary	Observe, Autumn, weather, season, light and dark	Environment, habitat, Extinction, endangered.	Winter, freezing, melting, temperature, changes.	Spring, growing, changing, names of plants.	Growth, seed, bulb, leaves, flower, conditions.	Summer, temperature, habitat, environment.




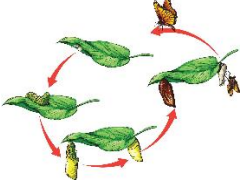
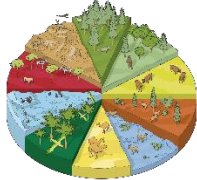

Science Curriculum Overview **Year 1**

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1						
Unit	Animals, including humans	Seasonal changes	Everyday materials	Animals, including humans	Animals, including humans	Plants
Vocabulary	<p>Sight, hearing, touch, smell, taste.</p> <p>Eyes, ears, fingers, nose, tongue, skin, nerves.</p>	<p>Seasons: spring, summer, autumn, winter,</p> <p>Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast.</p> <p>Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge.</p> <p>night, day, daylight.</p>	<ul style="list-style-type: none"> 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. 	<p>fish, amphibians, reptiles, birds, mammals. carnivore, herbivore, omnivore.</p>	<p>plant, flower, evergreen tree, deciduous tree, weed., vegetable, fruit, berry, leaf/leaves, blossom, petal, stem, trunk, branch, root, seed, bulb, soil.</p>	
Coverage	<p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>Joan Beauchamp Procter – herpetologist</p>	<p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p>Distinguish between an object and the material from which it is made</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Chester Greenwood - invented earmuffs</p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p>	<p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees</p> <p>Beatrix Potter – mycologist and scientific illustrator</p>

**Working
scientifically
progression**







- 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

Science Curriculum Overview **Year 2**

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 2						
Unit	Survival of animals and humans and hygiene	Materials- usefulness and changing shape	Healthy living-food and food pyramid	Life cycles.	Habitats, plants	Growing-varying conditions, seed experiments
Key vocabulary	Survival and staying <u>healthy</u> : basic needs, survive, food, air, exercise , diet , nutrition , healthy, balanced diet, hygiene , germs .	<u>Changing shape</u> : squash, bend, twist, stretch. <u>Properties of materials</u> : e.g. strong, flexible, light, hard-wearing, elastic. <u>Other</u> : suitability , recycle, pollution.	<u>Food groups</u> : fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt, sugar. water	<u>Life cycle stages</u> : e.g. baby, toddler, child, teenager, adult ; frogspawn, tadpole, froglet, frog. • <u>Being born and growing</u> : Young , offspring , live young , grow, develop , change, hatch, lay, fly, crawl, talk.	<u>Living or dead</u> : living , dead , never living , not living, alive, never been alive, healthy. <u>Habitats including microhabitats</u> : depend , shelter, safety, survive , suited, space, minibeast, air. <u>Food chains</u> : food sources , food, producer, consumer, predator, prey. <u>Names of habitats and microhabitats</u> : e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat.	germination , shoot , seed dispersal , grow, food store, life cycle, die, wilt, seedling, sapling. sunlight , nutrition , light, healthy, space, air. movement, sensitivity, growth, reproduction, nutrition, excretion, respiration.
Coverage	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air), and hygiene Charles Henry Turner – zoologist	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 Charles Mackintosh – invented the raincoat	Describe the importance for humans of exercise, eating the right amounts of different types of food Recap hygiene	Notice that animals, including humans, have offspring which grow into adults	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	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.

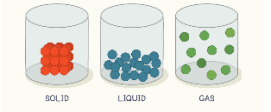




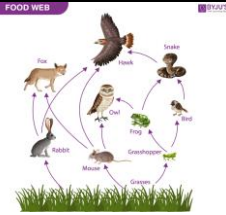
					<p>habitats, including microhabitats</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>Paula Kahumbu – wildlife conservationist</p>	
<p>Working scientifically progression</p>	<ul style="list-style-type: none"> - 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 					

Science Curriculum Overview Year 3

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 3						
Unit	Rocks and fossils	Forces and magnets	Animals and humans – Skeletons and muscles	Animals and humans – nutrition	Plants	Light, shadows and reflection
Key vocabulary	<p><u>Types of rock:</u> sedimentary rock, igneous rock, metamorphic rock.</p> <p><u>Properties of rocks:</u> permeable, semi-permeable, impermeable, durable.</p> <p><u>Names of rocks:</u> e.g. marble, chalk, granite, sandstone, slate.</p> <p><u>Formation of rocks and fossils:</u> natural, human-made, magma, lava, molten rock, sediment, erosion, fossilisation, layers, bone, fossil.</p> <p><u>Soil:</u> sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost.</p> <p>palaeontology.</p>	<ul style="list-style-type: none"> • <u>How things move:</u> move, movement, surface, distance, strength. • <u>Types of forces:</u> push, pull, contact force, non-contact force, friction. • <u>Magnets:</u> magnetic, magnetic field, magnetic force, bar magnet, horseshoe magnet, ring magnet, magnetic poles (north pole, south pole), attract, repel, compass. • <u>Magnetic and non-magnetic materials:</u> iron, nickel, cobalt. 	<p>skeleton, muscles, tendons, joints, protection, support, organs, voluntary muscles, involuntary muscles, biceps, triceps, contract, relax, bone, cartilage, shell, vertebrate, invertebrate, endoskeleton, exoskeleton, hydrostatic skeleton.</p> <p><u>Names of human bones:</u> e.g. skull, spine, backbone, vertebral column, ribcage, pelvis, clavicle, scapula, humerus, ulna, pelvis, radius, femur, tibia, fibula.</p>	<p><u>Food groups and nutrients:</u> fibre, fats (saturated and unsaturated), vitamins, minerals.</p> <p>energy.</p>	<p><u>Water transportation:</u> transport, evaporation, evaporate, nutrients, absorb, anchor.</p> <p>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.</p>	<p>Light and seeing: dark, absence of light, light source, illuminate, visible, shadow, translucent, energy, block.</p> <p>Light sources: e.g. candle, torch, fire, lantern, lightning.</p> <p>Reflective light: reflect, reflection, surface, ray, scatter, reverse, beam, angle, mirror, moon.</p> <p><u>Sun safety:</u> dangerous, glare, damage, UV light, UV rating, sunglasses, direct.</p>
Coverage	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p>	<p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>Observe how magnets attract or repel each other and attract some materials and not others</p>	<p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement:</p> <ul style="list-style-type: none"> - Identify what a skeleton is and the three different types of skeletons - Identify main bones in a human skeleton and their function 	<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> <p>-healthy and balanced diet for humans</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>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</p>	<p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p>





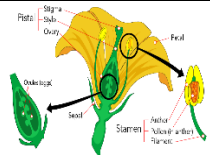

	<p>Recognise that soils are made from rocks and organic matter</p> <ul style="list-style-type: none"> - Investigate types of rocks – sorting and grouping - Learn about how fossils are formed - Practical soil investigation <p>Mary Anning – fossils Anjana Khatwar – earth scientist</p>	<p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>Describe magnets as having two poles</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<ul style="list-style-type: none"> - Look at how muscles work in pairs - Muscles experiments <p>Libby Hyman – zoologist – vertebrates and invertebrates</p>	<p>-healthy and balanced diet for different animals with different needs</p>	<p>Investigate the way in which water is transported within plants</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>	<p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>Find patterns in the way that the size of shadows change.</p> <p>Percy Shaw – invented cat’s eyes</p>
<p>Working scientifically progression</p>	<ul style="list-style-type: none"> - 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 					

Science Curriculum Overview Year 4

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 4						
Unit	States of matter	Electricity including conservation of energy	Teeth Digestive system	Sound	Living things and their habitat	Food chains
Key vocabulary	<p>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) Other: atmosphere.</p>	<p>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.</p>	<p>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.</p>	<p>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.</p>	<p>Living things: organisms, specimen, species. Vertebrate, invertebrate. Grouping living things: classification, classification keys, classify, characteristics. <ul style="list-style-type: none"> 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.</p>	<p>Food chains and animal diets: decomposer, food web. producer, consumer, prey, predator, excretion, habitat.</p>
Coverage	<p>Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>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)</p>	<p>Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans</p> <p>Model the process of digestion using household items (food, plastic bag, tights)</p>	<p>Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produced it</p>	<p>Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>Recognise that environments can change and that this can</p>	<p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>

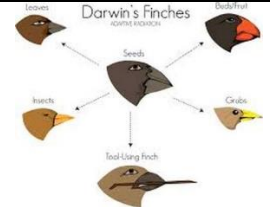
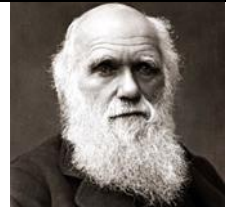


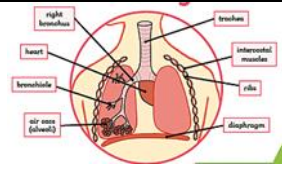

	<p>Show melting and solidifying eg with ice or chocolate</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p>Nikola Tesla – engineer and inventor</p>	<p>Identify the different types of teeth in humans and their simple functions</p> <p>Compare teeth in different animal skulls and link to the diet of the animal.</p> <p>William Beaumont – first surgeon to observe human digestion</p>	<p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>sometimes pose dangers to living things</p> <p>Wangari Maathai – biologist and environmental activist – living things and their habitats</p> <p>Carlous Lineaus – classifying and naming</p>	
<p>Working scientifically progression</p>	<ul style="list-style-type: none"> - 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 					
<p>Key resources</p>	<p>Ingredients for melting (eg rice crispie cakes)</p>	<p>Static electricity resources and rope to demonstrate current electricity.</p>	<p>Tights, ziplock bags, orange juice, left over food</p>	<p>Sound sensors for data collection,</p>		

Science Curriculum Overview **Year 5**

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 5						
Unit	Properties and changes of materials	Earth and Space	Forces	Forces	Living things and their habitats	Animals, including humans
Key vocabulary	<p><u>Properties of materials:</u> thermal conductor/insulator, magnetism, electrical resistance, transparency.</p> <p><u>Mixtures and solutions:</u> dissolving, substance, soluble, insoluble.</p> <p><u>Changes of materials:</u> reversible change, physical change, irreversible change, chemical change, burning, new material, product.</p> <p><u>Separating:</u> sieving, filtering, magnetic attraction.</p>	<p>star, planet. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus.</p> <p>spherical bodies, sphere. rotate, axis, orbit, satellite.</p> <p>geocentric model, heliocentric model, astronomer. sunrise, sunset, midday, time zone.</p>	<p><u>Types of forces:</u> air resistance, water resistance, buoyancy, upthrust, Earth's gravitational pull, gravity, opposing forces, driving force, balanced, unbalanced.</p> <p><u>Mechanisms:</u> levers, pulleys, gears/cogs.</p> <p><u>Measurements:</u> weight, mass, kilograms (kg), Newtons (N), scales, speed, fast, slow</p> <p>streamlined</p>		<p>life cycle, pollination, offspring, fertilise, fertilisation, sepal, filament, anther, stamen, pollen, petal, stigma, style, ovary, carpel, ovule, stem, bulb, roots, mammal, adult, baby, sperm, cells, live young</p>	<p>Reproduction: asexual reproduction, sexual reproduction, gestation, metamorphosis, gametes, tuber, runners/side branches, plantlet, cuttings, embryo, adolescent, penis, vagina, egg, pregnancy, gestation.</p> <p><u>Changes and life cycle:</u> embryo, foetus, uterus, prenatal, adolescence, puberty, menstruation, adulthood, menopause, life expectancy, old age, hormones, sweat.</p> <p><u>Changing body parts:</u> e.g. breasts, penis, larynx, ovaries, genitalia, pubic hair.</p>
Coverage	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	Planetarium visit in school. 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	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	Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	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 <i>Jane Goodall – zoologist</i>	Describe the changes as humans develop to old age.

	<p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>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>	<p>Describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>Nicolaus Copernicus – discovered sun is at the centre of the solar system</p>	<p>moving surfaces</p> <p>Sir Isaac Newton – force due to gravity</p> <p>Galileo Galilei – law of motion</p>		<p>Sir David Attenborough – biologist</p>	
<p>Working scientifically progression</p>	<ul style="list-style-type: none"> - 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 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 					

Science Curriculum Overview **Year 6**

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 6						
Unit	Evolution and Inheritance Habitats/Living Things	Evolution and Inheritance Habitats/Living Things (finish last few weeks of this unit) Electricity Using electrical systems Symbols and components Series (only) Circuits (the very early start of this unit)	Electricity Using electrical systems Symbols and components Series (only) Circuits (finish unit)	Light and Sight	The Human Body (Inc. drugs/exercise/health) Circulation and Heart (start of unit)	The Human Body (Inc. drugs/exercise/health) Circulation and Heart (finish unit to link in with SRE and PSHE)
Key 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. Microorganisms: bacteria , single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope , decompose.	Classifying: Linnaean system, flowering and non-flowering plants, variation. Circuits: symbol , circuit diagram, component, function, filament.	Flow and measure of electricity: voltage , amps , resistance , electrons , volts (V), current . Variations: dimmer, brighter, louder, quieter. Types of electricity: natural electricity, human-made electricity, solar panels, power station. Other: positive, negative.	Reflection: periscope. Seeing light: visible spectrum , prism . How light travels: light waves, wavelength, straight line, refraction .	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.
Coverage	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago	Trip to OUMNH for Evolution talk and activities Describe how living things are classified into broad	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit	Recognise that light appears to travel in straight lines Use the idea that light travels in straight lines to explain that objects are	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 functions Our changing bodies

	<p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>Charles Darwin - naturalist, geologist, and biologist Mary Leakey - archaeologist and anthropologist</p>	<p>groups according to common</p> <p>Observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>Give reasons for classifying plants and animals based on specific characteristics</p> <p>Electrical production and uses, symbols and components</p>	<p>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</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p> <p>Edith Clarke – electrical engineer</p>	<p>seen because they give out or reflect light into the eye</p> <p>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</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</p>	<p>Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>Dr Daniel Hale Williams – performed the first open heart surgery</p>	
<p>Working scientifically progression</p>	<ul style="list-style-type: none"> - 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 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 					