



SCIENCE OVERVIEW 2022-23

Topics are highlighted based on their scientific strand: **Biology** / **Physics** / **Chemistry**

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
EYFS	<p>EYFS Statutory Framework: Understanding the World Early Learning Goal 15 - The Natural World</p> <ul style="list-style-type: none"> 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 <p>Some further examples may include evidence of</p> <ul style="list-style-type: none"> Using the sense to explore Explore how things work Plants seeds and care for growing plants Understand the life cycle of a plant and an animal Begin to learn about respect and care for the environment Talk about different forces e.g. push pull stretch Talk about the differences between materials and changes they notice Recognise that some environments are different <p>Further detail outlined for EYFS can be found in the DfE non-statutory guidance Development Matters document and the school's EYFS Skills and Progression document</p> <ul style="list-style-type: none"> At this stage, our school has chosen to introduce them to working scientifically language key words: observe, record, measure, predict, report, conclude, test, plan and predict 					
Why now?	Children first need to make sense of their physical world through rich and engaging activities that allow them to sense the world around them. Child initiated play, adult lead activities and the opportunity to develop language is key.					
Next steps	Year 1 – animals including humans about me – healthy habits, how to look after myself, sense, label body parts Year 1 – animals including humans – about animals – what do animals need to live? Caring for animals, offspring, understanding what carnivores, omnivores and herbivores are Year 1- Plants – watch them grow and observe them, name parts of plants, learn that some plants only grow at certain times of the year Year 1 – Seasonal changes – observe changes, describe those changes, know which season we are in Year 1 – materials – properties, naming different materials, know their uses, explain why they are chosen, magnet function and use					
YEAR 1	Animals including humans – about me	Seasonal changes	Exploring everyday materials	Use of everyday materials	Plants	Animals including humans – about animals
National Curriculum Objectives	<ul style="list-style-type: none"> Identify/name a common animals(fish, amphibians, reptiles, birds and mammals- Mr Fab) & describe/compare their structures Identify/name carnivores, herbivores and omnivores Name, draw basic human parts plus senses 	<ul style="list-style-type: none"> observe changes across the 4 seasons and describe weather associated with the seasons and how day length varies 	<ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify/name a everyday materials, inc wood, plastic, glass, metal, water, and rock& describe the simple physical properties of them compare and group everyday materials on the basis of their simple physical properties 	<ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify/name a everyday materials, inc wood, plastic, glass, metal, water, and rock& describe the simple physical properties of them compare and group everyday materials using their simple physical properties 	<ul style="list-style-type: none"> name plants (wild/garden) inc deciduous/evergreen trees & describe structures within 	<ul style="list-style-type: none"> Identify/name a common animals(fish, amphibians, reptiles, birds and mammals- Mr Fab) & describe/compare their structures Identify/name carnivores, herbivores and omnivores Name, draw basic human parts plus senses
Why now?	<ul style="list-style-type: none"> To support setting healthy habits as early as possible Topic builds foundations for understanding a broader group of animals in summer 2 Children should be the most confident to discuss their own bodies and how they use them 	<ul style="list-style-type: none"> Opportunity to see seasonal changes across this term more evident Supports knowledge for plants topic later in the year 	<ul style="list-style-type: none"> Must precede use of materials topic. They must explore them before using them Supports DT projec 	<ul style="list-style-type: none"> Builds on foundation knowledge of materials topic in spring 1 Supports the DT project 	<ul style="list-style-type: none"> Opportunity to grow plants and observe in finer weather 	<ul style="list-style-type: none"> Must go after about me topic at start of the year. Building a broader knowledge of animals Accompanies the White Post Farm visit
Previous knowledge	<ul style="list-style-type: none"> EYFS 'Understanding the world' 	<ul style="list-style-type: none"> EYFS 'Understanding the world' 	<ul style="list-style-type: none"> EYFS 'Understanding the world' 	<ul style="list-style-type: none"> EYFS 'Understanding the world' Year 1 exploring everyday material 	<ul style="list-style-type: none"> EYFS 'Understanding the world' 	<ul style="list-style-type: none"> EYFS 'Understanding the world'
Next Steps	<ul style="list-style-type: none"> Year 1 2 x animal including humans topic (autumn 1 and summer 2) Year 2 animals including humans – growth Year 3 animals inc – what makes us Year 4 animals inc – food and digestion Year 5 – life cycles of humans Year 6 – heart and health / blood and transport in blood 	<ul style="list-style-type: none"> Year 2 – living things and their habitats x 2 topics Year 2 - plants growth and care Year 3 plants and life cycles Year 3 light Year 4 – living things nature and environment Year 5 – space Year 6 light 	<ul style="list-style-type: none"> Year 1 use of everyday materials Year 2 everyday materials Year 3 – light / rocks / forces and magnets (all discuss properties of materials) Year 4 – states of matter / sound /electricity topics all support knowledge of materials Year 5 – properties of materials and changes in materials (2 x topic) Year 6 light / electricity both support materials 	<ul style="list-style-type: none"> Year 1 use of everyday materials Year 2 everyday materials Year 3 – light / rocks / forces and magnets (all discuss properties of materials) Year 4 – states of matter / sound /electricity topics all support knowledge of materials Year 5 – properties of materials and changes in materials (2 x topic) Year 6 light / electricity both support materials 	<ul style="list-style-type: none"> Year 2 Plants – growth and care Year 3 plants and life cycles Year 3 exploring the world of plants Year 4 living things and their habitat – classification / nature and the environment Year 5 studying living things Year 6 living things and their habitats (microorganisms) Year 6 evolution and inheritance 	<ul style="list-style-type: none"> Year 2 animals including humans – growth Year 3 animals inc – what makes us Year 4 animals inc – food and digestion Year 5 – life cycles of humans Year 6 – heart and health / blood and transport in blood

YEAR 2	Animals including humans Diet and health	Living things and their habitats	Everyday materials	Living things and their habitats around the world	Animals including humans – growth	Plants – Growth and care
National Curriculum Objectives	<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"> Explore/compare living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited - say how habitats meet basic needs of living things and how they depend on each other identify/name a variety of plants & animals in their habitats, including microhabitats describe how animals get food from plants & other animals -idea of a simple food chain, and identify/name sources of food 	<ul style="list-style-type: none"> Identify & compare the suitability 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"> Explore/compare living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited - say how habitats meet basic needs of living things and how they depend on each other identify/name a variety of plants & animals in their habitats, including microhabitats describe how animals get food from plants & other animals -idea of a simple food chain, and identify/name sources of food 	<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"> observe and describe how seeds/bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy
Why now?	<ul style="list-style-type: none"> To support setting good habits for the year Must precede animals inc humans' growth topic to support that understanding of life cycles 	<ul style="list-style-type: none"> Observations of things in different life stages outside become more possible Must precede next topic to build foundations of knowledge 	<ul style="list-style-type: none"> Supplements the history topic (titanic) and later the DT project 	<ul style="list-style-type: none"> Most follow previous topic Living things and their habitats– builds on understanding of food chains Support the year group visit to Yorkshire Wildlife Park 	<ul style="list-style-type: none"> Supports delivery of RSE lessons Needs latter stages of year 2 for maturity/understanding 	<ul style="list-style-type: none"> Opportunities to grow and observe plants in finer weather and build on earlier topic this year of habitats (an opportunity to put knowledge into practice)
Previous knowledge	<ul style="list-style-type: none"> Year 1 2 x animal including humans topic (autumn 1 and summer 2) 	<ul style="list-style-type: none"> Year 1 -plants (care, varieties, label parts) Year 1 – seasonal changes 	<ul style="list-style-type: none"> Year 1 exploring and then using every day materials 	<ul style="list-style-type: none"> Year 1 -plants (care, varieties, label parts) Year 1 – seasonal changes 	<ul style="list-style-type: none"> Year 1 animals inc humans – me and animals (2 x topic) Year 2 animals inc humans' diet and health 	<ul style="list-style-type: none"> Year 1 seasonal changes Year 1 plants Year 2 2 x topic living things and habitats/habitats around the world
Next Steps	<ul style="list-style-type: none"> Year 2 - animals including humans – growth Year 3 - animals inc – what makes us Year 4 - animals inc – food and digestion Year 5 – life cycles of humans Year 6 – heart and health / blood and transport in blood 	<ul style="list-style-type: none"> Year 2 - Plants – growth and care Year 3 - plants and life cycles Year 3 - exploring the world of plants Year 4 - living things and their habitat – classification / nature and the environment Year 5 - studying living things Year 6- living things and their habitats (microorganisms) Year 6- evolution and inheritance 	<ul style="list-style-type: none"> Year 3 – light / rocks / forces and magnets (all discuss properties of materials) Year 4 – states of matter / sound /electricity topics all support knowledge of materials Year 5 – properties of materials and changes in materials (2 x topic) Year 6 - light / electricity both support materials 	<ul style="list-style-type: none"> Year 2 - Plants – growth and care Year 3 - plants and life cycles Year 3 - exploring the world of plants Year 4 - living things and their habitat – classification / nature and the environment Year 5 - studying living things Year 6 - living things and their habitats (microorganisms) Year 6 - evolution and inheritance 	<ul style="list-style-type: none"> Year 3 - animals inc humans what makes us Year 4 – animals inc humans' food and digestion Year 5 – human life cycles / plant life cycles Year 6 – heart health/ blood and transport (x topics) Year 6 evolution and inheritance 	<ul style="list-style-type: none"> Year 3 – plants and life cycles Year 3 – exploring the world of plants Year 4 – living things and their habitats – classification and environment Year 5 – studying living things Year 6 – living things and their habitats (micro-organisms)
YEAR 3	Light	Rocks	Forces and magnets	Plants and life cycles	Exploring the world of plants	Animals including humans – what makes us
National Curriculum Objectives	<ul style="list-style-type: none"> recognise we need light to see things dark is the absence of light notice that light is reflected recognise sun light can be dangerous and that there are ways to protect their eyes recognise that shadows = light source is blocked by opaque objects find patterns in the way that the size of shadows change 	<ul style="list-style-type: none"> Compare/group rocks by their look and simple physical properties describe in simple terms how fossils are formed (lived & trapped in rocks) 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 	<ul style="list-style-type: none"> Identify/describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the needs of plants (air, light, water, nutrients from soil, and room to grow) and how this varies investigate water transportation in plants explore the part that flowers play: pollination, seed formation & seed dispersal 	<ul style="list-style-type: none"> Identify/describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the needs of plants (air, light, water, nutrients from soil, and room to grow) and how this varies investigate water transportation in plants explore the part that flowers play: pollination, seed formation & seed dispersal 	<ul style="list-style-type: none"> Animals inc humans need: right types & amount of nutrition, cannot make their food; nutrition comes from what they eat humans and some animals have skeletons and muscles: support, protection and movement
Why now?	<ul style="list-style-type: none"> Weather permits better investigations of light and shadows and allows outdoor science to take place Observations of light changes during this term will be possible Avoids same use time of equipment of year 6 	<ul style="list-style-type: none"> Supports history and English topics to be explored next half term (preparation work) which develops vocab etc Must be taught before forces and magnets – where rock knowledge will be required to support understanding of magnets, friction etc 	<ul style="list-style-type: none"> Develops on ideas taught about rocks 	<ul style="list-style-type: none"> Weather permits the beginning of observing and growing plants around school and inside classroom Supports understanding of the next topic – exploring plants 	<ul style="list-style-type: none"> Develops further on understanding of plant life cycles 	<ul style="list-style-type: none"> A more technical and challenging study of muscles, ligaments and skeleton so left until the end of year for maturation of pupils

Previous knowledge	<ul style="list-style-type: none"> Year 1 – seasonal changes Year 1 – use of everyday materials (reflective surfaces) 	<ul style="list-style-type: none"> Year 2 - identify and compare materials Year 1 - materials – distinguish what they are made of and group according to features 	<ul style="list-style-type: none"> Year 2 – materials (squishing and bending materials) 	<ul style="list-style-type: none"> Year 1 - seasonal changes Year 1 - plants Year 2 - 2 x topic living things and habitats/habitats around the world 	<ul style="list-style-type: none"> Year 1 - seasonal changes Year 1 - plants Year 2 - 2 x topic living things and habitats/habitats around the world Year 3 – plants and life cycles 	<ul style="list-style-type: none"> Year 2 – animals inc humans diet and health Year 2 - animals inc humans growth Year 1 – (parts of the body, changes, importance of looking after yourself)
Next Steps	<ul style="list-style-type: none"> Year 5 – materials grouping according to properties Year 5 - space Year 6 - light KS3 - waves (human eye, light waves) 	<ul style="list-style-type: none"> Year 3 - forces and magnets Year 4 - states of matter (solids, liquids, gases, condense/evaporate, weathering. Year 5 - earth and space (big bang theory characteristics of different planets) Year 5 forces (sinking and floating, gravity and resistance) 	<ul style="list-style-type: none"> Year 4 - electricity Year 5 - earth and space Year 5 - forces Year 6 - electricity 	<ul style="list-style-type: none"> Year 3 – exploring the world of plants Year 4 – living things and their habitats – classification and environment Year 5 – studying living things Year 6 – living things and their habitats (micro-organisms) 	<ul style="list-style-type: none"> Year 4 – living things and their habitats – classification and environment Year 5 – studying living things Year 6 – living things and their habitats (micro-organisms) 	<ul style="list-style-type: none"> Year 4 - animals inc food and digestion Year 5 – plants and human life cycle Year 6 – living things (organism reproduction -fungus/mould) Year 6 – animals including humans blood and transportation (nutrients and water in blood along with waste products)
YEAR 4	Animals including humans – food and digestion	Living things and their habitat – nature and the environment	Classifying living things and their habitats	States of matter	Sound	Electricity
National Curriculum Objectives	<ul style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in humans identify 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"> living things can be grouped in diff ways explore/use classification keys to help group, environments can change and this can be dangerous to living things 	<ul style="list-style-type: none"> living things can be grouped in diff ways explore/use classification keys to help group, environments can change and this can be dangerous to living things 	<ul style="list-style-type: none"> compare and group materials: solids, liquids or gases 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 parts played by evaporation, condensation in the water cycle the rate of evaporation determined by temperature 	<ul style="list-style-type: none"> identify how sounds are made, associating some of them with something vibrating and 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"> Name appliances that run on electricity construct a simple series electrical circuit: name parts: cells, wires, bulbs, switches and buzzers Bulbs work in a closed circuit A switch can determine if bulb lights recognise some common conductors and insulators, and associate metals with being good conductors
Why now?	<ul style="list-style-type: none"> Works with history topic Egyptians (Spring 1). Gaining knowledge before hand is key to supporting their learning. Will support healthy habits at school/home. 	<ul style="list-style-type: none"> Must precede classifying topic for year 4 Weather should permit for work outside using/recording water Changes in ecosystems may be observed as weather changes quickly in this term 	<ul style="list-style-type: none"> Must follow the understanding of habitats taught in previous topic in year 4 	<ul style="list-style-type: none"> Must be learned before sound and electricity as it supports the content in that topic Conceptually required for next two topics Will support DT project kites 	<ul style="list-style-type: none"> Must be preceded by states of matter topic Builds on knowledge of previous topic Conceptually more difficult so must be in latter part of the year 	<ul style="list-style-type: none"> Avoids year 6 using equipment at same time Builds on understanding learned in previous two topics (sound and states of matter)
Previous knowledge	<ul style="list-style-type: none"> Year 3 – Animals inc humans (nutrition and keeping healthy) Year 2 - animals inc humans – growth, diet and health Year 1 – (parts of the body, changes, importance of looking after yourself) 	<ul style="list-style-type: none"> Year 3 - plant life cycles and exploring the world of plants Year 2 - plant growth and care Year 1 – plants and seasonal changes 	<ul style="list-style-type: none"> Previous topic Year 3 - plant life cycles and exploring the world of plants Year 2 - plant growth and care Year 1 – plants and seasonal changes 	<ul style="list-style-type: none"> Year 3 - rocks Year 3 - forces and magnets (magnetism, poles, friction) Year 2 - everyday materials Year 1 - materials (absorbent, grouping, transparent, opaque) 	<ul style="list-style-type: none"> Year 1 – senses Sound is explored in music lessons 	<ul style="list-style-type: none"> First encounter of learning about electricity
Next Steps	<ul style="list-style-type: none"> Year 5 – plants and human life cycle Year 6 – living things (organism reproduction -fungus/mould) Year 6 – animals including humans' blood and transportation (nutrients and water in blood along with waste products) 	<ul style="list-style-type: none"> Year 4 - classifying living things Year 5 - human life cycles Year 6 - living things and their habitats (micro-organisms, reproduction) Year 6 - evolution and inheritance – external factors/pressures on selection 	<ul style="list-style-type: none"> Year 5 - human life cycles Year 6 - living things and their habitats (micro-organisms, reproduction) Year 6 - evolution and inheritance – external factors/pressures on selection, Charles Darwin , Mammals Reptiles Fish Amphibians Birds MRS GREN -what all living things do. 	<ul style="list-style-type: none"> Year 5 - forces Year 5 - Earth and space Year 5 - materials (2 x topic) 	<ul style="list-style-type: none"> KS3 - waves topic (audible sounds, microphones, distance travelled) 	<ul style="list-style-type: none"> Year 6 electricity – circuits, conductors, insulators, circuit symbols, history of electrical appliances , currents KS3 - electricity and magnetism – electric fields, electric charge, circuits, components Resistance
YEAR 5	Properties of materials	Changes of materials	Forces	Earth and space	Studying living things	Animals including humans – the human life cycle
National Curriculum Objectives	<ul style="list-style-type: none"> Compare/group materials based on their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets some materials will dissolve in liquid to form a solution, and 	<ul style="list-style-type: none"> Compare/group materials based on their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets some materials will dissolve in liquid to form a solution, and 	<ul style="list-style-type: none"> explain what gravity is: an invisible force acting between the Earth and the falling object identify the effects of air resistance, water resistance and friction, that act between moving surfaces 	<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 	<ul style="list-style-type: none"> describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in some plants and animals 	<ul style="list-style-type: none"> describe the changes as humans develop to old age

	<p>describe how to recover a substance 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 to use certain materials based on tests/evidence demonstrate reversible changes: dissolving, mixing 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>describe how to recover a substance 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 to use certain materials based on tests/evidence demonstrate reversible changes: dissolving, mixing explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda 	<ul style="list-style-type: none"> recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect 	<ul style="list-style-type: none"> use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky 		
Why now?	<ul style="list-style-type: none"> Must precede the changes topic to build that foundation knowledge Must be done before spring term DT project 	<ul style="list-style-type: none"> Must follow properties of materials Must go before DT project in spring term Weather restrictions may limit science outside 	<ul style="list-style-type: none"> Must complete before earth and space Supports knowledge of DT project (pulleys and gears in spring term) 	<ul style="list-style-type: none"> Must go after forces topic and materials Conceptually more challenging so should go in latter half of year 	<ul style="list-style-type: none"> Weather permits planting and investigating outside/classroom Must precede human life cycle 	<ul style="list-style-type: none"> Supports the RSE topic Must go after life-cycles etc for plants
Previous knowledge	<ul style="list-style-type: none"> Year 4 - states of matter –(solid, liquid, gas) Year 4 - electricity (conductors and insulators) Year 3 - forces and magnets (magnetic) Year 3 – rocks (rock types and formation, weathering of rocks) Year 2 - everyday materials Year 1 – everyday materials and exploring their use (magnets, certain materials for jobs, natural and man-made) 	<ul style="list-style-type: none"> Year 5 - Properties of materials Year 4 - states of matter –(solid, liquid, gas) Year 4 - electricity (conductors and insulators) Year 3 - forces and magnets (magnetic) Year 3 – rocks (rock types and formation, weathering of rocks) Year 2 - everyday materials Year 1 – everyday materials and exploring their use (magnets, certain materials for jobs, natural and man-made) 	<ul style="list-style-type: none"> Year 3 - forces and magnets (magnet types, friction, north/south pole) 	<ul style="list-style-type: none"> Year 5 - forces Year 4 - states of matter – (changes with temp, freezing/melting, condense/evaporate) 	<ul style="list-style-type: none"> Year 4 - living things and their habitat – nature and the environment Year 4 - classifying living things and their habitats Year 3 - plant life cycles and exploring the world of plants Year 2 - plants growth and care Year 1 – plants and seasonal changes 	<ul style="list-style-type: none"> Year 5 – studying living things life cycles Year 2 – animals including humans' growth Year 1 – about me and about animals (2x topics)(senses body parts, growth, taking care, what animals need to live, where birds live, carnivores/herbivores)
Next Steps	<ul style="list-style-type: none"> Year 5 - changes of materials Year 6 - electricity – insulation/conductors Year 6 - light – opaque/transparent etc KS3 - matter – solids, liquids, gas 	<ul style="list-style-type: none"> Year 5 - changes of materials Year 6 - electricity – insulation/conductors Year 6 - light – opaque/transparent etc KS3 - matter – solids, liquids, gas KS3 matter – chemical changes, process of change , diffusion Potential energy 	<ul style="list-style-type: none"> KS3 - forces and motion – resultant forces, friction and overcoming it, balanced and unbalanced forces 	<ul style="list-style-type: none"> KS3 - Earth and space – atmosphere, rock cycles, internal structure of the earth, gravity, orbit, stars and galaxies 	<ul style="list-style-type: none"> Year 5 - human life cycles Year 6 - living things and their habitats (micro-organisms, reproduction) Year 6 - evolution and inheritance – external factors/pressures on selection 	<ul style="list-style-type: none"> KS3 - reproduction Changes in adolescence , menstrual cycles , conception to birth
YEAR 6	Animals including humans – heart and health	Animals including humans – blood and transportation	Electricity	Light	Living things and their habitat	Evolution and inheritance
National Curriculum Objectives	<p>Name, find, give functions of parts of human circulatory system, and describe the heart, blood vessels and blood</p> <p>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>Name, find, give functions of parts of human circulatory system, and describe the heart, blood vessels and blood</p> <p>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</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>recognise that light appears to travel in straight lines and use this to explain that objects are 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 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</p> <p>give reasons for classifying plants and animals based on specific characteristics</p>	<p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>recognise that living things produce offspring that are not identical but similar to them</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>
Why now?	<p>Begins the understanding of blood function before development in the next topic</p> <p>Knowledge supports a piece of writing in English topic (reports/inform)</p>	<p>Follows heart health topic and builds on knowledge of blood</p> <p>Must be taught before evolution to support topic knowledge</p>	<p>Avoids using equipment as year 4 need it</p> <p>Develops understanding of energy in support of light topic next</p>	<p>Builds on knowledge of year 3 light topic</p> <p>Fair light conditions permit use of light/shadows experiments</p> <p>Conceptually more challenging so should be taught in latter half of the year</p>	<p>Weather conditions will permit for time outside and plant growth observations</p> <p>Supports the development of next topic (evolution)</p>	<p>Most complex to understand</p> <p>Must understand animals topic before this is learned</p>

	Children will have some conceptual understanding of heart and health to build confidence in the topic					
Previous knowledge	<p>Year 5 – human life cycle (gestation, adolescence, old age, changes)</p> <p>Year 4 – food and digestion (saliva, teeth, intestines, vitamins and minerals, food chains)</p> <p>Year 3 – what makes us (muscles, skeleton, healthy food)</p> <p>Year 2</p> <p>Year 1 – about me and about animals (2x topics) (senses body parts, growth, taking care, what animals need to live, where birds live, carnivores/herbivores)</p>	<p>Year 6 – heart health (previous topic)</p> <p>Year 5 – human life cycle (gestation, adolescence, old age, changes)</p> <p>Year 4 – food and digestion (saliva, teeth, intestines, vitamins and minerals, food chains)</p> <p>Year 3 – what makes us (muscles, skeleton, healthy food)</p> <p>Year 2</p> <p>Year 1 – about me and about animals (2x topics) (senses body parts, growth, taking care, what animals need to live, where birds live, carnivores/herbivores)</p>	<p>Year 4 - electricity – how to use it safely, circuit names, setting up circuits, build series and parallel circuits</p> <p>Conductors and insulators</p>	<p>Year 4 - light topic (formation of shadows, using reflection periscopes, danger of light rays, light enables us to see)</p>	<p>Year 5 - studying living things</p> <p>Year 4 - living things and their habitat – nature and the environment</p> <p>Year 4 - classifying living things and their habitats</p> <p>Year 3 - plant life cycles and exploring the world of plants</p> <p>Year 2</p> <p>Year 1 – plants and seasonal changes</p>	<p>Life cycles of animals and plants</p> <p>Animals – systems in the body</p> <p>Year 3 – rocks (fossil formation)</p> <p>Year 5 – human life cycle (gestation, adolescence, old age, changes)</p> <p>Year 4 – food and digestion (saliva, teeth, intestines, vitamins and minerals, food chains)</p> <p>Year 3 – what makes us (muscles, skeleton, healthy food)</p> <p>Year 2</p> <p>Year 1 – about me and about animals (2x topics) (senses body parts, growth, taking care, what animals need to live, where birds live, carnivores/herbivores)</p>
Next Steps	<p>KS3 - cells and organisation</p> <p>KS3 - reproduction</p> <p>KS3 - nutrition health and digestion</p> <p>KS3 - muscles and skeleton</p>	<p>KS3 - cells and organisation</p> <p>KS3 - reproduction</p> <p>KS3 - nutrition health and digestion</p> <p>KS3 - muscles and skeleton</p>	<p>KS3 - electricity and magnetism – electric fields, electric charge, circuits, components</p> <p>Resistance</p>	<p>KS3 - Energy topic</p> <p>KS3 - Waves topic (includes light reflection, refractions, pinhole cameras, speed of light, parts of the human eye)</p>	<p>KS3 - biology – photosynthesis</p> <p>KS3 - cells and organisation</p>	<p>KS3 - eco-systems and evolution (food-webs, genetics, extinction causes)</p>