Science School Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
EYFS	**Development Matters** 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. **Scientific Enquiry (also linked to CofETL)** ***Questioning, prediction and fair testing*** • Provide children with have frequent opportunities for outdoor play and exploration (including noticing and creating patterns in a range of environments). • Encourage interactions with the outdoors to foster curiosity and give children freedom to touch, smell and hear the natural world around them during hands-on experiences (and quality and diverse stories) • Encourage focused observation of the natural world (including planting of seeds, drawings of animals and plants) such as caring for caterpillars and observing change • Listen to children describing and commenting on things they have seen whilst outside, including plants and animals (including seasonal change). Learning new vocabulary, asking questions, using talk to work out problems, describing events and sequencing. • Encourage positive interaction with the outside world, offering children a chance to take supported risks, appropriate to themselves and the environment within which they are in (investigating ingredients, cooking etc)					
EYFS Vocabulary	World, environment, predict, fair test, investigation, noticing, patterns, the senses, seasons, weather, nocturnal, hibernation, wildlife, animals, plants and vegetables / seeds, digging, diet, tools (spade, trowel) food, compost, soil, minibeasts, creatures,					
Outdoor Learning:	Seasonal walks, pond dipping, mini-beast hunt, butterfly release, growing flowers and caring for our garden, growing sunflowers from seed and observations using drawing, 'in-the-moment' opportunities to be outside e.g. frost, wind, shadow spotting etc.					
1		**Everyday Materials** 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	**Seasonal Change** Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies	**Plants** 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	**Animals including humans** Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) identify, name, draw and label the basic parts of the human body and say

					which part of the body is associated with each sense
Cross year links	**<u>Anchoring:</u>**	EYFS - Similarities and differences of materials	EYFS - Features of environments and how they can vary	EYFS - Observations of plants and changes	EYFS - Observations of animals and changes
	<u>Preparing:</u>	Names and properties of everyday materials Suitability of materials 'What type of paper makes the best paper aeroplane?' 'Can you keep an Inuit's hand dry?' 'How long can you keep your ice-pop frozen for?'	Seasons wheel in relation to months of the year Observed changes in school and at The Grove Identified signs of spring and colour matched to chart Weather chart	Observational drawings of flowers Identifying different parts of a plant and what plants need Planting flowers and observing their growth and change Planting flowers in The Grove Observing plants and soil at the Ashdown Forest Deciduous and evergreen trees Identify common garden and wild plants	Classify animals (mammals, birds, fish, amphibians, reptiles) Understanding carnivores, omnivores and herbivores Analyse human body and parts.
Vocabulary		Object, material, wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, rubber, sponge, hard, soft, stretchy, not stretchy, shiny, dull, rough, smooth, bendy, not bendy, transparent, not transparent	Seasons, months of the year, hot, warm, mild, cold, sunny, cloudy, rain, sleet, snow, hail, thunder, lightning, rainbow, windy, temperature, degrees Celsius, thermometer, day length, equator	Deciduous, evergreen, wild plant, garden plant, roots, branch, stem, trunk, leaf, flower, petal, seeds, bulbs.	Birds, fish, amphibians, reptiles, mammals and invertebrates Feathers, scales, gills, fins, hair, land, water, backbone, skeleton Carnivores, herbivores, omnivores Meat, plants (Common parts/structures of animals) (Names of animals that can be found in the school grounds) (Names of animals that the children keep as pets) Basic human body parts
Links to Outdoor Learning		Labelling building materials around the school. Describe the properties of building	Keep a weather chart by going outside and observing the weather. Observe temperatures and thermometers.	Plant seeds in outdoor classroom. Tomato plant growing competition. Ashdown Forest trip. Plant	Explore the pond area; go pond dipping and observe creatures that are found. Make animal and human

		materials. Silly spinners game – create a silly object made out of a silly material.			seedlings in the Grove. Observations of plants; looking at different features and sorting. Observational drawings.	skeletons out of sticks etc and label. Bird watching – discuss differences between humans and birds
2	**Everyday Materials** Identifying everyday materials Suitability of materials How materials can change shape Which materials are waterproof? Which materials are bouncy?		**Animals including humans** Basic needs of animals and humans Identifying a range of animals' offspring The importance of exercise Personal hygiene The importance of a balanced diet	**Plants** Observe how seeds and bulbs grow into plants What do plants need to grow? How are different seeds dispersed?	**Living things and their habitats** Things that are living, dead and never been alive Identify a range of animals and plants Why are some animals suited to particular habitats and microhabitats? Case study – pond habitat Case study – woodland Food chain	
Cross year links	**<u>Anchoring:</u>** Year 1 – identifying the names of a range of everyday materials and objects which are made from these		Year 1 – identifying a range of animals consisting of herbivores, carnivores, omnivores and detritivores.	Year 1 – growing a range of plants as well as identifying plants and trees around the local area	Year 1 – studying a range of plants and animals and understanding where these grow and live	
	<u>Preparing:</u> Year 3 – whether everyday materials are transparent, translucent and opaque (linked to light)		Year 3 – Understanding the different types of nutrition and how to create a balanced diet Types of skeletons	Year 3 - growing a range of plants to help children to recognise the various parts of a plant	Year 3 - NA	
Vocabulary	stretchy stiff shiny dull rough smooth bendy waterproof absorbent opaque transparent squash twist stretch foil brick paper fabrics		living dead habitat energy predator prey woodland desert	seeds bulb water light temperature growth	survival exercise hygiene offspring reproduce diet amphibian fish reptile mammal invertebrate bird	
Links to Outdoor Learning	Materials walk in Tunbridge Wells – identifying materials and their properties.		Enrich animal grouping relay	Enrich Plants Orienteering quiz Plant bulbs in school flower beds/tyres	Enrich minibeast and habitat hunt, living and non-living trails	

	Compare to history learning 1666				Case study –pond habitat and woodland food chain	
3	**Friction and Forces:** Identify forces are pushes and pulls; investigate friction on different surfaces; explore how magnets work; identify magnetic materials; know uses of magnets	**Light and Shadow:** Recognise the following: light is needed to see things; dark is the absence of light; light is reflected from surfaces; light from the sun can be dangerous; ways to protect their eyes; 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.	**Animals including humans:** Know how animals, including humans, need specific nutrition to help them move and grow, and how humans and some other animals have skeletons and muscles to help their bodies move	**Rocks:** Find out about different kinds of rocks and what they can be used for; explore a variety of soils and find out how they are formed; learn about how fossils are formed	**Plants**: Identify the functions of the different parts of a plant; find out what plants need in order to grow well; explore how plants reproduce	
Cross year links	**Anchoring:** Y2: find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	**Anchoring:** Y2: properties of everyday materials (particularly the transparency of glass / being able to 'see through' it and what this has to do with light / how we see things in general)	**Anchoring:** Y1 & Y2: describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene; describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)	**Anchoring:** Y1: compare and group together a variety of everyday materials on the basis of their simple physical properties	**Anchoring:** Y2: 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	
	Preparing: Y5: other forces in addition to friction and magnetism	**Preparing:** Y6: use the idea that light travels in straight lines to explain why shadows have the same	**Preparing:** Y6: recognise the impact of diet, exercise, drugs and lifestyle	**Preparing:** Y6: recognise that living things have changed over time and that fossils provide information about living things that inhabited	**Preparing:** Y5: describe the life process of reproduction in some plants and animals	

		shape as the objects that cast them		the Earth millions of years ago		
Vocabulary	twist, magnetism, steel, (other common metals), compass Spellingframe: attract, contact, force, friction, magnet, magnetic, poles, pull, push, repel	light source; transparent, translucent, opaque, angle, beam, Spellingframe: light, mirror, reflect, reflection, reflective, shadow	(balanced) diet, herbivore, carnivore, omnivore, (in)vertebrates, tendons, ligaments Spellingframe: movement, muscles, bones, nutrition, nutrients, skeleton	natural, man-made, erode, erosion, permeable, porous, decay, organic, rock cycle, igneous, metamorphic, sedimentary Spellingframe: crystal, fossil, granite, marble, pumice, sandstone, soil	roots, stem, capillary action, carbon-dioxide, oxygen, sunlight, leaves, germination, pollinator, stamen, anther, filament, carpel, stigma, style, ovary, ovule, seed, petal, fertilization, seed dispersal Spellingframe: air, dispersal, flowers, light, nutrients, pollination, reproduction, soil, transportation, water	
Links to Outdoor Learning			Enrich activity on the skeleton	Rivers trip – rocks?	Investigating parts of a plant	
4	**Living things and their habitats:** classifying living things using classification keys, environmental damage	**Living things including humans:** digestive system, teeth and food chains	**States of matter:** solids, liquids and gases and changing state. Heating and cooling	**Electricity:** constructing simple circuits and making torches	**Sound:** how sound travels, altering pitch and volume, effect of distance on sound	**Review of all units as we have 5 units and 6 terms.**
Cross year links	**<u>Anchoring:</u>** Y1: classification of animals, observation of plants Y2: why some animals are suited to particular habitats Y3: plants	**<u>Anchoring</u>**: Y3: human body	**<u>Anchoring:</u>** Y1: Properties of everyday materials Year 2 properties of everyday materials	**<u>Anchoring:</u>** N/A		
	<u>Preparing: N/A</u>	**<u>Preparing</u>**: Y6: circulatory system	**<u>Preparing:</u>** Y5: Properties and chemical changes	**<u>Preparing:</u>** Y5: Earth, space, and forces Y6: electricity	**<u>Preparing</u>**: Y5: rainforest habitat Y6: evolution and inheritance	**<u>Anchoring: N/A</u>**
Vocabulary	Vibration, sound source, pitch, volume, waves, ammeter, decibels, ear canal, ear drum, travel	Digestion, digestive system, mouth, oesophagus, stomach, small and large intestine, teeth, incisors, canines, premolars, molars, enzymes, food chain, primary, secondary, and tertiary producer,	Solids, liquids, gases, molecules, fixed shape, volume, viscosity, compress, force, changing states, heating, colling, evaporation, water cycle, precipitation, condensation, evaporation, run off	Appliance, mains, battery, simple circuit, cell, wire, bulb, open and closed switch, buzzer, conductor, insulator	Organisms, classification, classification key, group, mammal, amphibian, reptile, invertebrate, flowering and non-flowering plants, environmental changes, nature	

		consumer, predator, prey, flow of energy				
Links to Outdoor Learning	Investigate how distance affects the volume of sounds	Representing food chains (with use of coloured bibs)	Role-play of different states (on field)		Identify species in different habitats, using a classification key (woods / field / pond)	
5	**Forces –** gravity, air resistance, water resistance and friction, and mechanisms	**Earth and Space –** movement of the Earth, moon and other planets, spherical body and the heliocentric model	**Living things and their habitats –** life cycles of a mammal, an amphibian, an insect and a bird reproduction in plants and animals	**N/A**	**Properties and changes of materials –** properties of everyday materials, dissolving, solids, liquids and gases, separation, reversible and irreversible changes	**Animals including humans –** changes as humans develop to old age (inc. puberty and gestation)
Cross year links	**Anchoring:** Y3: Forces (friction and magnetism), Year 4 Electricity (insulators and conductors)	**Anchoring:** Y3: Light and Shadow	**Anchoring:** Y3: Plants (life cycle of flowering plants)		**Anchoring:** Y4: States of Matter (heating and cooling, evaporation and condensation)	**Anchoring:** Y5: RHE (puberty and menstruation)
		Preparing: Y6: Light/Electricity	**Preparing:** Y6: Living Things and their Habitats / Evolution		**Preparing:** Y6: Light/Electricity	**Preparing:** Y6: RHE (puberty, conception and menstruation)
Vocabulary (Spellingframe words + extras)	Newton, friction, gears, gravity, pulley, resistance	axis, heliocentric, geocentric, moon, night, phases, rotation, sun	amphibian, bird, insect, mammal, offspring, reproduction		conductivity, conductor, dissolving, evaporation, filter, insulator, magnetic, mixing, separating, solubility	baby, development, elderly, embryo, foetus, gestation, growth, puberty, teenager, toddler, womb
Links to Outdoor Learning	Friction (enrich)	Herstmonceux Observatory (trip) Planets (enrich) Day moon observation (playground)	Animal classification (enrich)		Properties of materials (enrich)	

6	**Light –** travels in straight lines, reflection of light into eyes, light source to object to eyes, how shadows are formed	**Living things and their Habitats -** classifying plants and animals including reasons based on specific characteristics	**Evolution and inheritance –** recognise how living things have changed over time using fossils for evidence, recognise living things produce offspring, identify how living things adapt to suit environments	**Electricity –** brightness and volume linked to number of cells, compare and reason how components function, use symbols in circuit diagrams.	**Animals including humans –** the heart, role of blood and blood vessels, impact of diet, drugs, lifestyle and alcohol on the body, nutrients and water transporting around the body	
Cross year links	**Anchoring:** Y3: Light and shadow	**Anchoring:** Y4: classification of animals	**Anchoring:** Y4: living things and habitats Y5: living things and habitats	**Anchoring:** Y4: Electricity		
Vocabulary	Absorb, dull, beam, reflect, opaque, transparent, translucent, straight, natural, artificial	classification, vertebrate, invertebrate, kingdom, class, amphibian, reptile species, habitat	evolve, evolution, survival, reproduction, environment, variation, fossil, classification, speciation	electricity voltage, volts, series circuit, parallel circuit, component, conductor, insulator, resistance, volume	circulatory, heart, blood, vein, artery, pulse, vitamins, minerals, protein, fats, carbohydrates, alcohol	
Links to Outdoor Learning	**Measuring shadows – position of the shadow during the day** **Enrich light vocabulary quiz – end of unit**		**Observation of colour in different species** **Enrich – life on earth timeline**		**Observe and record heart rate before, during and after exercise.**	