

Our Vision and Principles

Pupils are given practical opportunities to explore and investigate.

Pupils work effectively in a collaborative way.

Pupils understand the relevance of their learning to the real world.

Pupils are engaged in fun and challenging learning.

Pupils are inspired to be curious and seek answers to their questions.

Our Vision

All children will have a secure understanding of the world around them, the ability to ask insightful, relevant questions, and the key enquiry skills to enable them to continue their learning beyond the classroom and into future fields of scientific discovery. They will be collaborative problem solvers who understand the impact of science in real-life contexts and who build successfully on existing knowledge. They will be able to work with increasing independence in following lines of enquiry and drawing meaningful conclusions from the results of investigative work.

Science Learning					
	Area of Learning	Exploring the natural and physical world around them	Skills and Knowledge we want the children to have at end of EYFS	ELG The Natural World	FS vocabulary
FS	<p>Understanding the World</p> <p>Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.</p>	<p>FS1 Notice changes in weather and wear appropriate clothing. Begin to understand the need to respect and care for the natural environment and all living things. Talk about the differences between materials and changes they notice.</p> <p>FS2 Autumn Term Explore the natural world around them. Describe what they see, hear and feel whilst outside. Changing season</p> <p>Spring Term Draw and make observation of the plants and animals Forces they can feel (magnets, water) Changing season Changing matter</p> <p>Summer Term Draw and make observation of the plants and animals Changing season Contrasting environments</p>	<p>We want the children to know for Understanding of the World by the time they leave EYFS and enter Y1:</p> <ol style="list-style-type: none"> 1. Know the town and country they live in (THIS IS GEOGRAPHY) 2. Know the parts of a plant or animal (Science) 3. Know the chronology of their life (HISTORY) 4. Know about a celebration in this country and another country (RE) 	<p>ELG: The Natural World Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; 15 - 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>	<p>weather seasons trees branches trunk bark alive dead minibeasts plant leaves bulb water sun stem root flower soil fruit blossom Magnets Attract and repel Materials - texture, appearance, change and strengths float/sink Water pressure</p>

Domains		
Working scientifically	Scientific discipline	Communicate
SCIENCE Coverage of Domains: Progression of Knowledge and Skills		(Tier 3 vocabulary)

Year group	Strands					
		Biology	Physics	Chemistry	Theme specific	Subject specific
Year 1	Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	leaf/leaves flower/blossom trunk branch stem stalk petal root soil fruit berry seed bulb food	KEY STAGE 1 identify describe observe question answer sort compare contrast classify equipment data measurement patterns enquiry
	Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	common animals wild tame pets fish bird reptile baby cub pup nest family egg	

					mouth neck eyes teeth wing claw tail beak fur feather fin scales
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>object material wood plastic glass metal water rock rough/smooth bright/shiny cloudy dim/dull strong/weak waterproof bendy/stiff soft/hard see-through melt freeze boil burn</p>
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>seasons spring summer autumn winter temperature rain snow sleet</p>

	Research				<ul style="list-style-type: none"> hailstone sunshine breeze wind ice climate difference
Year 2	<ul style="list-style-type: none"> Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research 	<ul style="list-style-type: none"> Plants Animals inc Humans Living things and their habitats Evolution and inheritance 	<ul style="list-style-type: none"> Electricity Forces Seasonal changes Light Sound Earth and space 	<ul style="list-style-type: none"> Materials Rocks States of matter 	<ul style="list-style-type: none"> growth seedling shoot mature healthy wither healthy (i.e soil) nutrients structure function germinate pollination seed dispersal
	<ul style="list-style-type: none"> Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research 	<ul style="list-style-type: none"> Plants Animals inc Humans Living things and their habitats Evolution and inheritance 	<ul style="list-style-type: none"> Electricity Forces Seasonal changes Light Sound Earth and space 	<ul style="list-style-type: none"> Materials Rocks States of matter 	<ul style="list-style-type: none"> amphibian mammal adult young toddler child teenager develop insect live young brain heart lungs skeleton bones eyebrows wrist Ear lobe etc
	Ask questions	Plants	Electricity	Materials	man-made

	<p>Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Forces Seasonal changes Light Sound Earth and space</p>	<p>Rocks States of matter</p>	<p>natural suitable useful function purpose property rust transparent reflection rigid flexible solid liquid molten gas boiling point Heat pressure</p>	
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>living dead never been alive habitat woodland forest desert ocean rainforest microhabitat food chain food source</p>	<p>(micro) habitat microscopic environment surroundings conditions life cycle food chain predator prey variety produce reproduce Suited adapted</p>
Year 3	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>Absorb Fertiliser Transported Pollination Seed formation Carpel Stigma Style Ovary Stamen</p>	<p>KEY STAGE 2 prediction conclusion evidence explanation diagram systematic comparative test</p>

					Anther Pollen sepal	fair test construct interpret accurate variables causal relationships improve precision quantitative
Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	skeleton muscles protection Movement Offspring vein/artery Joints Skull Sockets Tendon brain nutrition carbohydrate protein vegetable fruit dairy Food group Minerals		
Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	Light beam Speed of light reflect shadow Prism Opaque block/absorb		
Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	Gravity Friction Streamlined Magnet Attract/ repel Air-resistance Newton Meter brass/aluminium/		

	Evaluate Research				copper North/South pole
	Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	sedimentary igneous metamorphic fossils organic grains crystals Boulder Granule Quartz Characteristic Impermeable lava/magma
Year 4	Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	digestive system digestion saliva oesophagus stomach small/large intestine rectum anus faeces excrete chemical breakdown gastric juices reabsorb reabsorption endoskeleton exoskeleton dentin plaque pulp-cavity fluoride tooth decay gums nerves enamel

					canines incisors premolars molars cavities decay
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>classification key (in)vertebrates mould fungus organism population deforestation pollution positive/negative human impact variation</p> <p>biome vegetation region dominant environmental anemometer barometer</p>
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>electrical device appliances circuit components conductor resister symbol cell battery wire bulb switch buzzer motor connection complete/open</p>

					/closed circuit positive/negative crocodile clip alligator clip
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>manufactured oxygen change of state solidify gaseous water vapour water cycle precipitation evaporation condensation degree Celsius waste sewage</p>
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>sound source wave noise vibrate/vibration pollution pitch volume dynamic echo tuning fork tone muffle mute soundproof</p> <p>drum guitar instrument families percussion timpani string brass woodwind</p>

					soprano alto tenor bass
Year 5	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>fertilisation birth uterus embryo ovary placenta chromosomes ovum zygote fallopian tubes gestation infancy arachnid mollusc crustacean sponge</p>
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>soluble solution solute solvent suspension filter mixture residue filtrate separation buoyancy (ir)reversible changes conductor thermal insulator insulation combustion reaction</p>
	<p>Ask questions Predict</p>	<p>Plants Animals inc Humans</p>	<p>Electricity Forces</p>	<p>Materials Rocks</p>	<p>sexual and asexual</p>

Sequence of Learning

	<p>Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Living things and their habitats Evolution and inheritance</p>	<p>Seasonal changes Light Sound Earth and space</p>	<p>States of matter</p>	<p>reproduction interdependence topography erosion seed formation plantlets clone runners transpiration</p>
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>mechanisms air & water resistance levers pulleys gears cams drag forces transference</p>
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>axis/axes Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune Pluto celestial body spin sphere/spherical rotation elliptical orbit revolve asteroid meteor(ite) comet galaxy</p>

					<p>light year</p> <p>latitude longitude equator hemisphere prime /Green which Meridian time zone</p>	
Year 6	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>microorganisms invertebrates vertebrates classification</p> <p>REVISIT PREVIOUS YEAR GROUP VOCABULARY</p>	
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>Refraction Transmission Optics</p> <p>REVISIT PREVIOUS YEAR GROUP VOCABULARY</p>	
	<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>REVISIT PREVIOUS YEAR GROUP VOCABULARY</p>	

<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>fossils inhabited offspring adaptation evolution inheritance variation Species Natural selection Genes Survival of the fittest chromosomes</p>	
<p>Ask questions Predict Observe Investigate Identify, classify and group Measure Record and Present Interpret and conclude Evaluate Research</p>	<p>Plants Animals inc Humans Living things and their habitats Evolution and inheritance</p>	<p>Electricity Forces Seasonal changes Light Sound Earth and space</p>	<p>Materials Rocks States of matter</p>	<p>Bronchi Diaphragm Trachea Gaseous exchange Aorta Pulmonary Carbon dioxide Air sac (de) oxygenated Plasma red/white blood cells Respiratory system Clotting Capillaries Circulatory system Blood vessels</p>	