



## Science Sequence of Learning

(Link to [POS Science Knowledge Progression \(2023\)](#))



EYFS : 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 involves <b>guiding children to make sense of their physical world and their community.</b> <b>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.</b></p>	<p><b>ES1</b> 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><b>FS2</b> <b>Autumn Term</b> Explore the natural world around them. Describe what they see, hear and feel whilst outside. Changing season</p> <p><b>Spring Term</b> Draw and make observation of the plants and animals Forces they can feel (magnets, water) Changing season Changing matter</p> <p><b>Summer Term</b> 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"> <li>1. Know the town and country they live in (THIS IS GEOGRAPHY)</li> <li>2. Know the parts of a plant or animal (Science)</li> <li>3. Know the chronology of their life (HISTORY)</li> <li>4. Know about a celebration in this country and another country (RE)</li> </ol>	<p><b>.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.</b></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>

## Sequence of Learning Y1 - Y6

Year	Working scientifically	Scientific discipline			Vocabulary (Tier 3)	
		Biology	Physics	Chemistry	Theme specific	Subject specific
Year 1	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants <b>Summer 1 &amp; 2</b> Animals inc Humans Living things and their habitats	Seasonal changes	Materials	leaf/leaves, flower/blossom trunk, branch stem, stalk, petal root, soil, fruit berry, seed, bulb food	<b>KEY STAGE 1</b> identify describe observe question answer sort compare contrast classify equipment data measurement patterns enquiry
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans <b>Spring 1 &amp; Spring 2</b> Living things and their habitats	Seasonal changes	Materials	common animals wild, tame, pets fish, reptile, baby cub, pup, nest family, egg, mouth, neck, eyes, teeth, wing claw, tail, beak fur, feather, fin scales	
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats	Seasonal changes	<b>Materials Autumn 1 &amp; 2</b>	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
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats	Seasonal changes	Materials	seasons spring summer autumn winter temperature rain snow sleet hailstone sunshine breeze wind ice climate difference
Year 2	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	<u>Plants Spring 2</u> Animals inc Humans Living things and their habitats	Seasonal changes	Materials	growth seedling shoot mature healthy wither healthy (i.e soil) nutrients structure function germinate pollination seed dispersal
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants <u>Animals inc Humans Summer 1 &amp; 2</u> Living things and their habitats	Seasonal changes	Materials	amphibian mammal adult young toddler child teenager develop insect

					live young brain heart lungs skeleton bones eyebrows wrist ear lobe etc
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats	Seasonal changes	Materials Spring 1	man-made natural suitable useful function purpose property rust transparent reflection rigid flexible solid liquid molten gas boiling point Heat pressure
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Autumn 1 & 2	Seasonal changes	Materials	living, dead, never been alive, habitat, woodland, forest, desert, ocean, rainforest, microhabitat, food chain, food source, environment, predator, prey, producer, suited, adapted

Year 3	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	<b>Plants Autumn 1 &amp; Summer 1</b> 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	absorb fertiliser transported pollination seed formation carpel stigma style ovary stamen anther pollen sepal	<b>KEY STAGE 2</b> prediction conclusion evidence explanation diagram systematic comparative test fair test construct interpret accurate variables causal relationships improve precision quantitative
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants <b>Animals inc Humans Autumn 2</b> 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	
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Sound Earth and space <b>Light Summer 2</b>	Materials Rocks States of matter	light beam speed of light reflect shadow prism opaque block/absorb	

	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity <b>Forces Spring 1</b> Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	gravity friction streamlined magnet attract/ repel air-resistance Newton Metre brass/aluminium/ copper North/South Pole	
	Predict Observe Investigate Identify, classify and group Measure and record 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 <b>Rocks Spring 2</b> States of matter	sedimentary igneous metamorphic fossils organic grains crystals boulder granule quartz characteristic impermeable lava/magma	
Year 4	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants <b>Animals inc Humans Autumn 1</b> 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 <b>endoskeleton</b> <b>exoskeleton</b> dentin	

					plaque pulp-cavity fluoride tooth decay gums nerves enamel canines incisors premolars molars cavities decay
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans <u>Living things and their habitats Summer 2</u> Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	classification key (in)vertebrates mould fungus organism population deforestation pollution positive/negative human impact variation biome vegetation region dominant environmental anemometer barometer
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	<u>Electricity Spring 2 &amp; Summer 1</u> Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	electrical device appliances circuit components conductor resistor symbol cell battery wire

					bulb switch buzzer motor connection complete/open /closed circuit positive/negative crocodile clip alligator clip
Predict Observe Investigate Identify, classify and group Measure and record 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 Spring 1	manufactured oxygen change of state solidify gaseous water vapour water cycle precipitation evaporation condensation degree Celsius waste sewage	
Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Autumn 2 Earth and space	Materials Rocks States of matter	sound source wave noise vibrate/vibration pollution pitch volume dynamic echo tuning fork tone muffle mute soundproof drum guitar instrument families	



					percussion timpani string brass woodwind soprano alto tenor bass
Year 5	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Summer 1 Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	fertilisation birth uterus embryo ovary placenta chromosomes ovum zygote fallopian tubes gestation infancy arachnid mollusc crustacean sponge
	Predict Observe Investigate Identify, classify and group Measure and record 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 Spring 1 & 2 Rocks States of matter	soluble solution solute solvent suspension filter mixture residue filtrate separation (ir)reversible changes conductor thermal insulator insulation combustion

					reaction
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans <u>Living things and their habitats Summer 2</u> Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	sexual and asexual reproduction interdependence topography erosion seed formation plantlets clone runners transpiration
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity <u>Forces Autumn 1</u> Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	mechanisms air & water resistance levers pulleys gears cams drag forces Transference buoyancy
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes Light Sound <u>Earth and space Autumn 2</u>	Materials Rocks States of matter	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 light year latitude longitude equator hemisphere prime /Green which Meridian time zone
Year 6	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans <b>Living things and their habitats Autumn 1</b> Evolution and inheritance	Electricity Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	microorganisms invertebrates vertebrates classification  (revisit vocabulary from previous year group)
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	Electricity Forces Seasonal changes <b>Light Summer 1</b> Sound Earth and space	Materials Rocks States of matter	refraction transmission optics  (revisit vocabulary from previous year group)
	Predict Observe Investigate Identify, classify and group Measure and record Interpret and conclude Evaluate Research	Plants Animals inc Humans Living things and their habitats Evolution and inheritance	<b>Electricity Summer 2</b> Forces Seasonal changes Light Sound Earth and space	Materials Rocks States of matter	(revisit vocabulary from previous year group)
	Predict Observe Investigate	Plants Animals inc Humans Living things and their	Electricity Forces Seasonal changes	Materials Rocks States of matter	fossils inhabited offspring

	<p>Identify, classify and group          Measure and record          Interpret and conclude          Evaluate          Research</p>	<p>habitats  <b>Evolution and inheritance Spring 1 &amp; 2</b></p>	<p>Light          Sound          Earth and space</p>		<p>adaptation          evolution          inheritance          variation          species          natural selection          genes          survival of the fittest          chromosomes</p>
	<p>Predict          Observe          Investigate          Identify, classify and group          Measure and record          Interpret and conclude          Evaluate          Research</p>	<p>Plants  <b>Animals inc Humans Autumn 2</b>          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>