

Science Progression Grid Class 3-4

Cycle 1

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Rocks (3)	Living things and their habitats (4)	Forces and Magnets (3)	Sound (4)	Plants (3)	Animals including humans (3)
Focusing on recognising and grouping rocks.	Focusing on grouping and keys	Focusing on forces as pushes and pulls	Focusing on sound and vibration.	Focusing on parts of the plant and plant requirements.	Focusing on nutrition
Minimum vocabulary shown in bold			Minimum learning is highlighted in yellow		
<p>FOCUS</p> <p>To know how to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties, igneous, sedimentary</p> <p>Rocks - the solid mineral material forming part of the surface of the earth and other similar planets, exposed on the surface or underlying the soil.</p> <p>Appearance – how something looks.</p>	<p>FOCUS</p> <p>To know that that living things can be grouped in a variety of ways;</p> <p>Grouped – How things are put together.</p>	<p>FOCUS</p> <p>To know that magnets have 2 poles;</p> <p>Poles – North and South poles</p>	<p>FOCUS</p> <p>To know how sounds are made, associating some of them with something vibrating.</p> <p>Vibrating – A movement backwards and forwards.</p>	<p>FOCUS</p> <p>To know the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>roots - These anchor the plant into the ground and absorb water and nutrients from the soil</p> <p>stem - This holds the plant up and carries water and nutrients from the soil to the leaves. A trunk is the stem of a tree.</p> <p>Leaves - These make food for the plant using sunlight and carbon dioxide from the air.</p> <p>Flowers - These make seeds to grow into new plants. Their petals attract pollinators to the plant.</p>	<p>FOCUS</p> <p>To know how to classify foods into food groups</p>

<p>To know how to describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Fossils - Fossils are the remains of ancient life that have been preserved by natural processes. Both plants and animals can become fossils.</p>	<p>To know how classification keys are used to help group living things.</p> <p>Classification keys - This is where plants or animals are placed into groups according to their similarities.</p>	<p>To predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p>	<p>To know that vibrations from sounds travel through a medium to the ear.</p> <p>Travel – to go from one place to another.</p>	<p>To know and understand the way in which water is transported within plants.</p> <p>Transported – to take something or carry something from one place to another.</p>	<p>To know 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; protein, carbohydrates, fats, fibre</p> <p>Nutrients – substances that living things need to stay alive and healthy</p>
<p>RECAP</p> <p>To know that soils are made from rocks and organic matter.</p> <p>Soils -Soil is the uppermost layer of the Earth. It is a mixture of different things: minerals, air, water, organic matter (including living and dead plants and animals).</p> <p>Organic matter - Organic matter is matter that has come from a recently living organism. It is capable of decay, or is the product of decay; or is composed of organic compounds.</p>	<p>RECAP</p> <p>To know and name a variety of living things in their local and wider environment;</p>	<p>To observe how magnets attract or repel each other and attract some materials and not others;</p> <p>Attraction – Is a force that pulls objects together.</p> <p>Repel – Repulsion is a force that pushes forces away.</p>	<p>To know that sounds get fainter as the distance from the sound source increases.</p> <p>Fainter – a sound that gets quieter.</p>	<p>RECAP</p> <p>To know the requirements for plants to live and grow - (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p>	
<p>To know the four different types of matter that soil is composed of</p>	<p>To know that environments can change and that this can sometimes pose dangers to living things.</p> <p>Environments - An environment contains many habitats and these include</p>	<p>RECAP</p> <p>To know how to compare how things move on different surfaces</p> <p>Surfaces – The top layer of something.</p>	<p>RECAP</p> <p>To know and find different patterns between the pitch of a sound and features of the object that produced it.</p> <p>Pitch – how high or low a sound is.</p>	<p>To know the role that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>RECAP</p> <p>To know and identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>

	areas where there are both living and non-living things.				<p>Muscles - soft tissues in the body that contract and relax to cause movement</p> <p>Skeletons – an internal or external framework of bone, cartilage, or other rigid material supporting or containing the body of an animal or plant.</p> <p>Support – to give assistance to something or someone.</p> <p>Protect – to keep safe from harm or injury.</p>
To know the difference between a bone and a fossil		<p>To know that some forces need contact between 2 objects, but magnetic forces can act at a distance; (friction)</p> <p>Forces – pushes or pulls Contact- when 2 things touch.</p>	<p>To know how to find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Vibrating – A movement backwards and forwards.</p> <p>Volume – the loudness of a sound.</p>		To know and describe the different types of skeletons.
		To know how to 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>One lesson of each half term is about the Scientist named below, children to investigate the scientist and why they are famous. Children to know about the different types of scientists and what they study- Botanist, Palaeontologist, Astronomer, Seismologist, Hydrologist, Zoologist, Audiologist</p>					

Scientist Focus: Mary Anning- Paleontologist	Scientist Focus: Carl Linnaeus- published a system of classifying and grouping all living things	Scientist Focus: William Gilbert/Hans Christien Oersted	Scientist Focus: Galileo Galilei- sound waves	Scientist Focus: Jan Ingenhousz- Photosynthesis	Scientist Focus: Antoine Laurent de Lavoisier- nutrient
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Disciplinary knowledge

Pupils might work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Pupils might research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Pupils could explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.	Pupils might work scientifically by: using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.	Pupils might work scientifically by: comparing how different things move and grouping them; raising questions and carrying out tests to find out how far things move on different surfaces and gathering and recording data to find answers their questions; exploring the strengths of different magnets and finding a fair way to compare them; sorting materials into those that are magnetic and those that are not; looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another; identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.	Pupils might work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. They might make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. They could make and play their own instruments by using what they have found out about pitch and volume.	Pupils might work scientifically by: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. They might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.	Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.
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Some key words will appear more than once which is deliberate across the progression grids as the children are consolidating their learning in different year groups. They will constantly be revisiting learning and embedding their understanding in the subject using key words.