

Science Progression Grid Class 3-4

Cycle 2

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 how soils form.	Focusing on living things and their environments	Focusing on how forces act on materials.	Focusing on patterns and vibrations.	Focusing on the life cycle of a plant.	Focusing on the skeletal system
Minimum vocabulary shown in bold			Minimum learning is highlighted in yellow		
<p>RECAP To know, compare and group together different kinds of rocks on the basis of their appearance and simple physical properties, igneous, sedimentary</p>	<p>RECAP To know that living things can be grouped in a variety of ways;</p>	<p>RECAP To observe how magnets attract or repel each other and attract some materials and not others.</p>	<p>RECAP To know how sounds are made, associating some of them with something vibrating;</p>	<p>RECAP To know identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p>	<p>RECAP To know how to classify foods into food groups.</p>
To know in simple terms how fossils are formed when things that have lived are trapped within rock;	To know, explore and use classification keys to help group living things.	To know that magnets have 2 poles.	To know that vibrations from sounds travel through a medium to the ear.	To know the way in which water is transported within plants	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>FOCUS 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</p>	<p>FOCUS To know and name a variety of living things in their local and wider environment.</p> <p>Living things - All living things need to be able to breathe, produce waste, grow and change, feed and reproduce</p>	To predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	<p>FOCUS To know how to find 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>FOCUS To know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant;</p> <p>nutrients - These substances are needed by living things to grow and survive. Plants get nutrients from the soil and also make their own food in their leaves.</p>	<p>FOCUS To know that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <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</p>

<p>organism. It is capable of decay, or is the product of decay; or is composed of organic compounds.</p>					<p>supporting or containing the body of an animal or plant.</p> <p>Support – to give assistance to something or someone.</p> <p>Protection – to keep safe from harm or injury.</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 areas where there are both living and non-living things.</p> <p>Dangers – harm that someone or something may encounter.</p>	<p>FOCUS</p> <p>To know how things move on different surfaces.</p> <p>Surfaces - The top layer of something.</p>	<p>To know there are 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>	<p>To know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>Pollination - When pollen (a fine powdery substance produced by a flowering plant) is moved from the male anther of a flower to the female stigma.</p> <p>Seed formation - After the plant has been pollinated a new seed will start to develop inside the ovary.</p> <p>Seed dispersal - A method of moving the seeds away from the parent plant so that the seeds have the best chance of survival.</p>	<p>To know the names and to describe the different types of skeletons.</p>
<p>To know the difference between a bone and a fossil.</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 that some forces need contact between 2 objects, but magnetic forces can act at a distance (friction)</p> <p>Forces – pushes or pulls</p> <p>Contact- when 2 things touch.</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>Distance increasing – to become further away from something.</p>		

		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.			
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					
Scientist Focus: James Hutton	Scientist Focus: Alfred Russel Wallace	Scientist Focus: Wilhelm Weber	Scientist Focus: Alexander Graham Bell	Scientist Focus: Jane Colden- botanist	Scientist Focus: William Buckland
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	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	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.

answer questions about the way soils are formed.

items and suggesting creative uses for different magnets.

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.