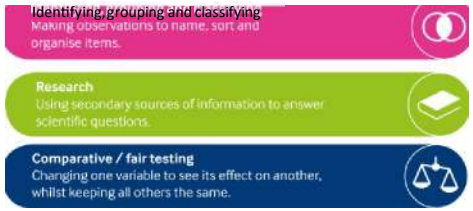
Year 3 Science Coverage

Plants	Animals including Humans	Rocks	Light	Magnets and Forces
P1 I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	**A1** I can identify 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.	**R1** I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.	**L1** I can recognise that they need light in order to see things and that dark is the absence of light. I can notice that light is reflected from surfaces.	**F1** I can compare how things move on different surfaces.
P2 I can explore 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.	**A2** I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.	**R2** I can describe in simple terms how fossils are formed when things that have lived are trapped within rock.	**L2** I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes.	**F2** I can identify that some forces need contact between 2 objects, but magnetic forces can act at a distance.
P3 I can investigate the way in which water is transported within plants.		**R3** I can recognise that soils are made from rocks and organic matter.	**L3** I can recognise that shadows are formed when the light from a light source is blocked by a solid object.	**F3** I can observe how magnets attract or repel each other and attract some materials and not others.
P4 I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			**L4** I can find patterns in the way that the size of shadows change.	**F4** I can 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.
				F5 1 can describe magnets as having 2 poles.
				F6 I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing.
Scientist to study: Modern: Dr Kelsey Byers (Biologist who studies flower smells and how they attract insects)	**Scientists to study:** Adelle Davis (Biochemist & Nutritionist who linked health and diet)	**Scientist to study:** Anjana Khatwa (Geologist who collects rocks and fossils from the beach and studies them to learn about the creatures that lived in	**Scientists to study:** Euclid, Ibn Sahl, Roger Bacon, Willebrord Sneillus, Isaac Newton, Christian Huygens	**Scientist to study:** William Gilbert John McAdam / Julie Brusaw

Historical: Jan Ingenhousz (Doctor & Scientist who discovered the process of photosynthesis)	Marie Curie (Physicist who invented the first mobile x-ray machine to treat soldiers wounded on the battlefield in WWI)	the sea and on Earth over 150 million years ago)		
Working Scientifically skills Observing and communicating information. Setting use a simple test and communicating data. Making observations. Using secondary resources to answer questions.	**Working Scientifically skills** Making observations and asking questions Identifying, naming and asking questions. Using secondary sources. Making observations and comparisons to identify and sort. Communicating information. Making predictions and recording data. Asking questions, making predictions and setting up tests. Evaluating, interpreting and communicating results.	**Working Scientifically skills** Observing Making observations and asking simple questions Setting up simple tests and recording data.	**Working Scientifically skills** Communicating results and asking questions. Setting up a test and communicating results. Making predictions. Observing. Asking questions and recording information.	**Working Scientifically skills** Making observations. Asking questions. Setting up a test, making predictions, observing and measuring and recording data. Research, making observations and interpreting and communicating.

	Unit	Key End Points	Vocabulary	Prior learning	Future learning	Common misconceptions
Autumn 1	Rocks R1-3 	By the end of this unit children will be able to: Talk about how the Earth is constantly moving and reshaping itself & how rock formation is dynamic. Name some famous rock formations, mountains and volcanoes around the world	Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil	Distinguish between an object and the material from which it is made. (YI Everyday materials) Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. (Y6 - Evolution and inheritance)	Some children may think: • rocks are all hard in nature • rock-like, man-made substances such as concrete or brick are rocks • materials which have been polished or shaped for use, such as a granite worktop, are not rocks

		Describe how rocks are formed in a simple way. Explore the environment and identify things made from rocks. E.g. stone Observe, describe and compare rocks. Group and order rocks (hardness, weight, length). Explain why rocks have been used for a specific purpose. E.g. Marble for statues Describe how fossils were formed. Observe, describe and compare soils.		rock. (Yl - Everyday materials) Describe the simple physical properties of a variety of everyday materials. (Yl Everyday materials) Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Yl Everyday materials) Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)		as they are no longer 'natural' • certain found artefacts, like old bits of pottery or coins, are fossils • a fossil is an actual piece of the extinct animal or plant • soil and compost are the same thing.
Autumn 2	Animals inc humans A1&2  	By the end of this unit children will be to: Explain how animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need. Discuss how food contains a range of different nutrients that are needed by the body to stay healthy —	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Yl Animals, including humans) Identify and name a variety of common animals that are carnivores,	Describe the simple functions of the basic parts of the digestive system in humans. (Y4 Animals, including humans) Identify the different types of teeth in humans and their simple functions. (Y4 - Animals, including humans)	Some children may think: • certain whole food groups like fats are 'bad' for you • certain specific foods, like cheese are also 'bad' for you • diet and fruit drinks are 'good' for you • snakes are similar to worms, so

		carbohydrates including sugars, protein, vitamins, minerals, fibre, fat, sugars, water. Know that a piece of food will often provide a range of nutrients. Talk about their skeleton and the job it does Identify and name some bones in the human skeletal system Talk about and identify the major muscles in the body. E.g. quads, hamstrings, calves, glutes, triceps, biceps Talk about how the muscles work Compare human and animal skeletons		herbivores and omnivores. (Yl Animals, including humans) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Yl - Animals, including humans) Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 Animals, including humans) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 Animals, including humans)	Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 Animals, including humans) Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (Y6 Animals, including humans)	they must also be invertebrates • invertebrates have no form of skeleton.
Spring	Magnets and Forces 	By the end of this unit children will be able to: Explore forces in the environment E.g. playing with toys, kicking/throwing balls, opening doors, climbing.	Force, push, pull, twist, contact force, noncontact force, magnetic force, magnet, strength, bar magnet, ring magnet, button	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending,	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and	Some children may think: • • the bigger the magnet the stronger it is • all metals are magnetic
Summer 1	Light	By the end of this unit children will be able to	Light, light source, dark, absence of	Identify, name, draw and label the	Recognise that light appears to travel in	Some children may think:

	L1-4 	Talk about how light helps us in everyday life. Name some sources of light Talk about materials that reflect light and how this can be useful/not useful. Talk about how dark is the absence of light. Talk about how to protect our eyes from the sun and why this is important. Explain how to make a variety of shadows e.g. vary size, clarity and shape.	light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous	basic parts of the human body and say which part of the body is associated with each sense. (YI - Animals, including humans) •Describe the simple physical properties of a variety of everyday materials. (Y2 Materials)	straight lines. (Y6 - Light) Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. (Y6 - Light) Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. (Y6 Light) Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. (Y6 - Light)	• we can still see even where there is an absence of any light • our eyes 'get used to' the dark • the moon and reflective surfaces are light sources • a transparent object is a light source • shadows contain details of the object, such as facial features on their own shadow • shadows result from objects giving off darkness.
Summer 2	Plants P1-4 	By the end of this unit children will be able to: Talk about the things that plants give us. Observe, describe and compare plants. Measure plants. Describe the functions of parts of a plant. Describe how a variety of plants need different things to live. Describe the life cycle of plants and the role of the flower	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal)	Observe and describe how seeds and bulbs grow into mature plants. (Y2 - Plants) Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (Y2 - Plants) Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Year 1 Plants)	Describe the life process of reproduction in some plants and animals. (Y5 Living things and their habitats)	Some children may think: • •plants eat food • food comes from the soil via the roots • flowers are merely decorative rather than a vital part of the life cycle in reproduction • plants only need sunlight to keep them warm • roots suck in water which is then sucked up the stem

				Identify and describe the basic structure of a variety of common flowering plants, including trees. (Year 1 Plants)		