SCIENCE MEDIUM TERM PLAN

Year 3	**Autumn 1** *Animals including Humans*	**Autumn 2** *Rocks*	**Spring 1** *Forces and Magnets*	**Spring 2** *Forces and Magnets*	**Summer 1** *Light*	**Summer 2** *Plants*
Topic Title	**Why do animals and humans have skeletons?**	**What are the properties of rocks?**	**What are different forces and how do magnets work?**		**How are shadows formed?**	**How do flowers reproduce?**
National Curriculum	Identify that humans and some other animals have skeletons and muscles for support, protection and movement. 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.	compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that soils are made from rocks and organic matter	Compare how things move on different surfaces Notice that some forces need contact between two objects, but magnetic forces can act at a distance Observe how magnets attract or repel each other and attract some materials and not others	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 Describe magnets as having two poles Predict whether two magnets will attract or repel each other, depending on which poles are facing.	Recognise that they need light in order to see things and that dark is the absence of light Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and that there are ways to protect their eyes Recognise that shadows are formed when the light from a light source is blocked by an opaque object Find patterns in the way that the size of shadows change.	identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 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 Investigate the way in which water is transported within plants Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal

SCIENCE MEDIUM TERM PLAN

Knowledge	Explain which parts of the skeleton provide support and protection, and how they allow for movement. Describe why animals depend on the correct nutrition. To know what vertebrate and invertebrate means To know that a nutritious diet can be achieved in a number of ways To know the function of the human skeleton To know muscles work in pairs	Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that soils are made from rocks and organic matter Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	Compare how things move on different surfaces Know that objects will move differently on rough and smooth surfaces To know that a force is a push or a pull Notice that some forces need contact between two objects, but magnetic forces can act at a distance	Observe how magnets attract or repel each other and attract some materials and not others 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 Describe magnets as having two poles Predict whether two magnets will attract or repel each other, depending on which poles are facing	Recognise that they need light in order to see things and that dark is the absence of light Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and that there are ways to protect their eyes Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change	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 Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Investigate the way in which water is transported within plants. Explain, with the aid of a diagram or plant, how water is carried up from the soil Explain how pollination, seed formation and seed dispersal play a role in the reproduction of flowering plants.

SCIENCE MEDIUM TERM PLAN

Investigations	Does the length of our femur affect how far we can jump?	Which rock is the hardest? (Scratch test) Do all rocks have the same properties? Do all soils contain the same materials?	Which surface is best for driving a toy car on? What will happen to a paperclip tied to the table when we introduce a magnet?	Which materials are magnetic? Can magnets attract other magnets? (Pole test) How strong is a magnet's attraction? (Material thickness test, magnetism at a distance)	Can light bend? How does the shape of an object affect its shadow? Can light pass through objects? What happens to a shadow as you move an object away from the light source?	How is water transported from the soil? Do plants need the same amount of soil nutrients to grow well? (Sand/Compost) How does the amount of space available affect the growth of plants? (Onion test)
Quick Fire 5	1. Can you name 3 important bones and describe what they do? 2. What is the difference between a vertebrate and an invertebrate? 3. How do muscles work in pairs? 4. Why do animals need the correct nutrition? 5. Can you describe a balanced diet?	1. Where do we find rocks? 2. Can you identify 3 types of rock? 3. Do all rocks have the same properties? 4. Do all soils contain the same materials? 5. How are fossils formed?	1. Can you give an example of a push and a pull force? 2. Which surface will a ball roll more easily on? 3. Does a magnet need to touch an object to attract it? 4. Does a magnet push or pull an object? 5. Can you describe a non-contact force?	1. Can you give examples of magnetic materials? 2. Can magnets attract other magnets? 3. What is a magnetic pole? 4. When will a magnet repel another magnet? 5. Can you predict whether this magnet will attract or repel?	1. Why do we need light to see? 2. What is a light source? Can you name three? 3. Which surfaces reflect light well? 4. How can we protect our eyes from the sun? 5. How are shadows formed?	1. What are the main parts of a plant? 2. Can you list the things a plant needs to grow? 3. How is water transported in plants? 4. What is pollination? 5. Do all plants have the same requirements?
Working Scientifically	Ask relevant questions when prompted Set up simple and practical enquiries, comparative and fair tests Set up comparative tests Make systematic observations, using simple equipment (+)LINKS 2.2.a.1; 2.2.a.2 Use standard units when taking measurements Record findings in various ways With prompting, suggest how findings may be tabulated With prompting, use various ways of recording, grouping and displaying evidence With prompting, suggest conclusions from enquiries Suggest how findings could be reported					

SCIENCE MEDIUM TERM PLAN

Vocabulary	Nutrition, nutrients, carbohydrates, sugars, protein, vitamin, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine	Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb, fossil, bone, flesh, minerals, marble, chalk, granite, sandstone, slate, soil	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, metal, iron, steel, aluminium, north pole, south pole	Light, light source, sun, sunlight, reflect, transparent, translucent, opaque	Plants Structure – flowering plants, roots, stem/trunk, leaves, flowers, Function – nutrition, support, reproduction, makes own food, transportation, dispersal Requirements for life and growth – air, light, water, nutrients from the soil, room to grow, fertiliser Life cycle – flowers, pollination, seed formation, seed dispersal
Prior Learning	Builds on prior learning of: Naming common animals including fish Describing and comparing the structure of common animals The basic needs of animals for survival	Builds on prior learning of: Year 1 – every day materials Naming different materials Describing simple properties of everyday materials Identifying and comparing suitability of materials	Builds on prior learning from: EYFS: Describe what they hear/see/feel outside Everyday materials (year 2)	Builds on prior learning from: EYFS: Describe what they hear/see/feel outside Describing physical properties of every day materials. Knowing the functions of basic body parts.	Builds on prior learning from: EYFS Year 1: identify and name a variety of common wild and garden plants, including deciduous and evergreen trees · identify and describe the basic structure of a variety of common flowering plants, including trees. Year 2:

SCIENCE MEDIUM TERM PLAN

					observe and describe how seeds and bulbs grow into mature plants § find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.