Year 3 Progression in Science Grid					
Topic	**Animals including humans**	**Forces and Magnets**	**Rocks**	**Light**	**Plants**
Prior knowledge	**From Y1** Name the main parts of the body, including those related to the 5 senses Identify which animals are fish, amphibians, reptiles, birds and mammals **From Y2 –** Describe the basic needs of humans and other animals (water, food, air). Describe the importance of exercise, eating the right amounts of different foods and hygiene for humans.	**From Y1** Distinguish between an object and the material from which it is made Describe the simple physical properties of a variety of everyday materials Organise objects or materials into groups	From Y1 Distinguish between an object and the material from which it is made Describe the simple physical properties of a variety of everyday materials Organise objects or materials into groups		**From Y1** Name the main parts of plants and trees Identify deciduous and evergreen trees **From Y2** Describe the basic needs for plant growth (light, water, appropriate temperature).
Prior knowledge for working scientifically	**From Y2** I know … • How to ask simple questions • Questions can be answered in different ways • How to begin to make predictions • How to make observations • How to perform a simple test • When something is unfair in a test • How to show my results in a table • How to talk about my findings using simple scientific language				
Key vocabulary	Nutrition Vitamins Minerals fat protein carbohydrates fibre water skeletons support protection skull brain ribs heart lungs movement joint muscles pull contract relax diet	force push pull open surface magnet magnetic attract repel magnetic poles North South	appearance physical properties hard/soft shiny/dull rough/smooth absorbent/not absorbent fossils sedimentary rock soils organic matter buildings gravestones grains crystals igneous metamorphic	light see dark reflect surface natural star Sun Moon protect eyes shadow blocked solid artificial torch candle lamp sunlight dangerous	Structure – flowering plants, roots, stem/trunk, leaves and flowers Function – nutrition, support, reproduction Requirements for growth – air, light, water, nutrients, room, fertiliser Life cycle – flowers pollination, seed formation, seed dispersal
Statutory requirements	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 □ Identify that humans and some	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	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	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	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,

	other animals have skeletons and muscles for support, protection and movement.	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	when things that have lived are trapped within rock Recognise that soils are made from rocks and organic matter.	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	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
Key Performance Indicators	Explain some functions of skeletons and muscles in animals Identify that animals need the right types and amount of nutrition	Group materials according to their magnetic properties	Identify the three main rock types and describe their properties	Notice that light is reflected from surfaces Find patterns in the way that the sizes of shadows change Understand how to protect eyes from the sun	Describe main requirements for plant growth (air, light, water, nutrients from soil and room to grow). Explain the main stages of plant reproduction (pollination, fertilisation, seed dispersal).
Essential knowledge	I know ... • Nutrients support our immune systems, maintain healthy bones and teeth and support growth • A balanced diet means eating the right amount of each food group. • How to interpret nutrition labels on food packaging. • A skeleton is made of bones and grows as we grow. • A skeleton protects our organs and helps us move. • Some animals have an Exoskeleton which protects their body from the outside.	I know... • A force is an action that changes or maintains a movement. • Forces can be sorted by either a push or a pull. • How to test how Different surfaces affect the distance of a toy car. • Magnets are used to attract iron. Magnets repel other materials • How to test which magnet is strongest.	I know... • The three types of rock are sedimentary, igneous and metamorphic. • Sedimentary rock is formed by mud and sand being squashed together. E.g. sandstone or limestone • Igneous rocks is formed from cooled magma or lava. E.g. pumice or granite • Metamorphic rock is formed when rocks are heated by magma or squashed by tectonic plates. E.g. Slate or marble Soil is made from rocks and is organic matter. • Fossils are formed when things that have lived are trapped within rock over many years. • How to identify and classify rocks and their uses.	I know … • We need light in order to see things • Dark is the absence of light • Light is reflected from surfaces • Shadows are formed when the light from a light source is blocked by an opaque object • Light from the sun can be dangerous and I can protect my eyes by wearing sunglasses	I know … • The functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • The requirements for of plants for life and growth air, light, water, nutrients from soil, room to grow) • The part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal
Investigations and Working Scientifically to be covered	How do our muscles work? (Running and jumping)	Which is the strongest magnet? How can we propel toy cars? Where are magnets used everyday? What does friction do?	How can we group rocks? What is soil made of? How easily does water drain through soil?	What affects how easily light passes through different materials? How well does light reflect from different surfaces? Colours? How do shadows change during the day?	Do plants need soil to grow? What conditions affect plant growth? Identifying different types of plants
KPIs for Working Scientifically	I know … • How to ask questions about the world around me • Questions can be answered in different ways • How to explain my predictions • What to observe during an investigation • How to perform a fair test • How to take measurements • How to record my findings using scientific language				

	• How to present my findings • How to draw a simple conclusion				
Assessment questions	What are nutrients? What is a balanced diet? What can you find out about nutrition in this package? What is a skeleton? Why do we have a skeleton? How do invertebrates protect their body? How do we move?	What is a force? How can we sort forces? How would you test how different surfaces affect the distance a toy car travels? How do magnets work? How can you find out which magnets are strongest? What is a contact and non-contact force?	What are the three types of rock? What is sedimentary rock? What is igneous rock? What is metamorphic rock? What is soil? What are fossils?	Why do we need light? What is darkness? How are shadows formed? How would you find patterns for the way the size of a shadow changes? How can you protect your eyes from the sun?	What are the functions of different parts of a plant? What does a plant need to grow? Why do you need flowers for pollination?