Science Progression Map – Year 3

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Humans and animals	Forces and magnets	Active planet	Stone Age	Rainforests	Ancient Egyptians
Learning Objective (from DC Pro)	**Working Scientifically** 1. I can talk about criteria for grouping, sorting and classifying, and use a simple key 2. I can identify differences, similarities or changes to simple scientific ideas and processes 3. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables 4. I can gather, record, classify and present data in a variety of ways to help answer question					
	Animals incl Humans 1. I can identify animals with and without skeletons 2. I can describe what would happen if a human did not have a skeleton 3. I can describe the function of muscles in humans 4. I can describe the function of a skeleton in humans 5. I can research and design my own balanced diet using different food groups 6. I can describe why animals need the right type and amount of nutrition 7. I can identify that animals, including humans, get their nutrition from what they eat	**Forces and Magnets** 1. I can predict whether two magnets will repel or attract one another depending on their poles 2. I can describe how magnets have two poles 3. I can investigate how magnets attract some materials and not others 4. I can observe how magnets attract and repel each other 5. I can describe how pushes and pulls can alter the movement and speed of an object 6. I can investigate that some forces need contact between two objects e.g. push and pull 7. I can describe how objects move on different surfaces	**Rocks and Soils** 1. I can observe how rocks change over time 3. I can describe how soils forms 6. I can compare different kinds of rocks based on their simple physical properties 7. I can compare different kinds of rocks based on their appearance	**Rocks and Soils** 2. I can research the different kinds of living things whose fossils are found in sedimentary rock 4. I can describe the fossils I have observed 5. I can describe how fossils are formed	**Plants** 1. I can describe the process of pollination 2. I can describe how seeds are dispersed 3. I can describe how seeds are formed 4. I can describe how water is transported through a plant 5. I can identify the requirements of a plant for life and growth 6. I can describe how the structure of the plant links to its function 7. I can describe the functions and different parts of a flowering plant 8. I can identify the different parts of a flowering plant	**Light** 1. I can find patterns in the way that the size of shadows change 2. I can investigate how the size of shadows change 3. I can recognise how shadows are formed when a solid object blocks the light 4. I can describe how light from the sun can be dangerous and the ways that I can protect my eyes 5. I can describe what happens when light hits a mirror 6. I can describe what happens when there is an absence of light 7. I can recognise that we need light in order to see things

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Skills	•Begin to explore everyday phenomena and the relationships between living things and familiar environments. •Begin to develop their ideas about functions, relationships and interactions. •Begin to raise their own questions about the world around them. •Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. •Begin to talk about criteria for grouping, sorting and classifying and use simple keys. •Begin to compare and group according to behaviour or properties, based on testing. •Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. •Begin to use relevant scientific language. •Begin to know which things in science have made our lives better.	•Ask some relevant questions and use different types of scientific enquiries to answer them. •Begin to explore everyday phenomena and the relationships between living things and familiar environments. •Begin to develop their ideas about functions, relationships and interactions. •Begin to raise their own questions about the world around them. •Begin to make some decisions about which types of enquiry will be the best way of answering questions. •Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. •Set up some simple practical enquiries, comparative and fair tests. •Begin to recognise when a simple fair test is necessary and help to decide how to set it up. •Begin to think of more than one variable factor. •Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. •Begin to talk about criteria for grouping, sorting and classifying and use simple keys. •Begin to compare and group according to behaviour or properties, based on testing. •Am beginning to use straightforward scientific evidence to answer questions or to support their findings. •With help, am beginning to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. •With support, am beginning to identify new questions arising from the data, make new predictions and find ways of improving what they have already done. •Begin to know which things in science have made our lives better. •Begin to use relevant scientific language. •Begin to use comparative and superlative language.	•Begin to raise their own questions about the world around them. •Begin to make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources. •Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. •Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. • Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. •Learn to use some new equipment appropriately (eg data loggers). • Begin to observe and measure accurately using standard units including time in minutes and seconds. •Set up some simple practical enquiries, comparative and fair tests. •Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data. •Begin to record results in tables and bar charts. •Begin to talk about criteria for grouping, sorting and classifying and use simple keys. •Begin to compare and group according to behaviour or properties, based on testing. •With help, am beginning to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. •Begin to use some scientific language to talk and, later, write about what they have found out.	•Begin to develop their ideas about functions, relationships and interactions. •Begin to raise their own questions about the world around them. •Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. •Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. •Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. •Begin to identify differences, similarities or changes related to simple scientific ideas and processes. •Begin to use some scientific language to talk and, later, write about what they have found out. •Begin to use relevant scientific language.	•Ask some relevant questions and use different types of scientific enquiries to answer them. •Begin to explore everyday phenomena and the relationships between living things and familiar environments. • Begin to develop their ideas about functions, relationships and interactions. •Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. •Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. •Set up some simple practical enquiries, comparative and fair tests. •Begin to recognise when a simple fair test is necessary and help to decide how to set it up. •Begin to think of more than one variable factor. •Gather, record, and begin to classify and present data in a variety of ways to help in answering questions. •Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. •Begin to identify differences, similarities or changes related to simple scientific ideas and processes. •I am beginning to use results to draw simple conclusions , make predictions for new values, suggest improvements and raise further questions. •Am beginning to use straightforward scientific evidence to answer questions or to support their findings. •Begin to use relevant scientific language. •Begin to use comparative and superlative language. •Begin to know which things in science have made our lives better.	•Ask some relevant questions and use different types of scientific enquiries to answer them. •Begin to explore everyday phenomena and the relationships between living things and familiar environments. •Begin to raise their own questions about the world around them. •Begin to make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, •Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. •Set up some simple practical enquiries, comparative and fair tests. •Begin to record findings using simple scientific language, drawings, labelled diagrams. •Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. •Am beginning to say what I found out, linking cause and effect. •Begin to use some scientific language to talk and, later, write about what they have found out. •Begin to use relevant scientific language. •Begin to know which things in science have made our lives better.

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Sticky Knowledge	-To know that living things need food to grow. Animals can not make their own food so need to eat the right foods to be strong and healthy. - The basic needs of animals are food, water and air. - Know that foods are healthy and unhealthy and that we should only eat small amounts of unhealthy foods. -Know that healthy foods contain nutrients which help the body to stay healthy. - Give an example of a food from each food group and know why it is important to the body. e.g. meat is protein which the body uses to grow and repair. - Know that the skeleton protects organs, allows movement and supports the body. - Name a major part of the skeleton and identify the organs that it protects. e.g.ribcage – heart and lungs. -Know that muscles work in pairs by contracting and relaxing. - Know that tendons join muscles to bones. - Give an example of an animal that has an exoskeleton. e.g.lobster.	-To know that rough surfaces create more friction than smooth surfaces. - To know that friction slows an object down. - To know that the driving force makes things move. - Forces are pushes or pulls that change the motion of an object. - Magnets attract (pull) opposite poles and repel (push) like poles. - The needle in a compass is a magnet that points to magnetic North. - Magnets have a North and South pole. - Not all metals are magnetic. . - The magnetic field is the area around a magnet where there is a magnetic force. (it is invisible but can be seen if you use iron filings.) - Give 3 examples of forces in real life – e.g hitting a ball, pushing a swing, pulling a rope, pushing a door.	-Explain how igneous rocks were formed from magma or lava. -Know how sedimentary rocks were formed by layers of sediment being pressed down hard and sticking together. - Know that metamorphic rock was once igneous or sedimentary rock before it was changed through extreme heat or pressure. - Name an example of each rock type. e.g. sandstone, granite and slate. - Know that soil is the top layer of the Earth. - Know that the top layer of the Earth (soil) is made up of topsoil, subsoil and baserock. - Know that soil is a mixture of minerals, air, water and organic matter. - Know which types of rock are permeable (sandstone) and impermeable (granite) and identify one of each.	- Know that fossils are usually found in sedimentary rocks. - Know that fossils are formed when an animal dies and the layers of sediment build up on top and over time the bone turns to minerals . They are exposed due to erosion and weathering of the rocks. - Know that erosion of sedimentary rocks caused by water creates caves. - Know that fossils have told us a lot about the past and how the world has changed.	-To identify and describe the function of each part of a flowering plant. e.g. flower, stem, roots, leaves. -To identify and name the petals, stamen, sepal, stem, carpel, leaves. -To identify and describe the 5 stages of the lifecycle of a flowering plant e.g. seed dispersal, germination, flowering, pollination, fertilisation and seed formation. - Name two ways that seed dispersal occurs. e.g wind, animals, water. - Name the 5 things need for a plant to grow. - Describe the movement of water through a plant and identify the parts of the plant involved in each stage. - to describe the meaning of pollination (pollen moved from male part of plant - anther to female part – stigma. - to describe the meaning of germination. – seed starting to grow. - to know how seeds are formed when pollen joins with an ovule.	- to know that light enables us to see. - Light travels in a straight line. - If light that is reflected off an object hits our eyes we can see the object. - Surfaces that reflect light well are shiny and flat. - Mirrors reflect light well and show a clear image that is reversed. - Pupils control the amount of light that enters your eye. - Too much light can damage the retina which tells us what we see. - To know that a shadow is caused when light is blocked by an opaque object. - To identify opaque, translucent and transparent objects in real life and explain why those properties are useful for those objects. e.g. window, blind etc. - To know where reflective materials are useful in real life. e.g high vis jackets, cats eyes.
Vocabulary	healthy, nutrients, energy, saturated fats, unsaturated fats, hygiene, physical, mental, balanced diet, carbohydrates, protein, fibre, vitamins, minerals, waste, digestion, grow, repair, vertebrate, invertebrate, exoskeleton, endoskeleton, muscles, tendons, joints, organs, contract, relax, skull, pelvis, spine, ribcage	forces, driving force, motion, friction, surface, magnet, magnetic, magnetic field, poles, repel, attract.	igneous rock, sedimentary rock, metamorphic rock, magma, lava, sediment, permeable, impermeable, erosion, molten, natural, man-made, durable, resistant, high and low density, limestone, chalk, sandstone, granite, basalt, marble, slate, concrete, soil, topsoil, subsoil, baserock, minerals, organic matter,	fossils, palaeontology, erosion, weatheringsediments, caves, permeable, impermeable, sedimentary rocks	roots, stem, leaves, flowers, nutrients, evaporation, fertilisation, petal, stamen, carpel, stigma, style, ovary, sepal, anther, filament, pollination, pollinator, germination, seed dispersal.	light, light source, dark, reflection, reflect, reflective, ray, beam, eye, pupil, retina, shadow, opaque, translucent, transparent.