KS2 Cycle A Science Medium Term Plan

	Autumn	Spring	Summer
Unit of Work	**Animals Including Humans** Do people with longer arms throw further? (pattern seeking) **Rocks and Soils** Are all soils the same? (identifying, grouping, classifying)	**Magnets and Forces** Which material causes the most friction? (comparative/fair testing) **Light** How does the distance between the light and the object affect the size of the shadow? (comparative/fair testing)	**Plants** Do leaves help a plant to grow? (observation over time)
Vocabulary to support Substantive and Disciplinary Knowledge	nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints rock, stone, pebble, boulder, grain, crystals, layers, sedimentary, igneous, metamorphic, hard, soft, texture, permeable, impermeable, fossil, marble, chalk, granite, sandstone, slate, soil, peat comparative/fair testing, research, observation over time, identifying grouping and classifying, problem solving, investigate, question, predict, method, fair test, answer, results, record, data, diagram, present, describe, conclusion, identify, compare, observe, group, sort, classify, equipment	force, push, pull, twist, contact force, non-contact force, friction, magnetic force, magnet (bar, ring, button, horseshoe), attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflection, refraction, mirror, sunlight comparative/fair testing, research, observation over time, identifying grouping and classifying, problem solving, investigate, question, predict, method, fair test, answer, results, record, data, diagram, present, describe, conclusion, identify, compare, observe, group, sort, classify, equipment	air, light, water, soil, nutrients, reproduction, seed dispersal (wind, animal, water), germination, pollination (wind and insect), lifecycle, transportation, species, flower, stem/trunk, root, leaf comparative/fair testing, research, observation over time, identifying grouping and classifying, problem solving, investigate, question, predict, method, fair test, answer, results, record, data, diagram, present, describe, conclusion, identify, compare, observe, group, sort, classify, equipment

I will know….	• 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. • I can identify that humans and some other animals have skeletons and muscles for support, protection and movement. • I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. • I can describe in simple terms how fossils are formed when things that have lived are trapped within rock. • I can recognise that soils are made from rocks and organic matter.	• I can compare how things move on different surfaces. • I can notice that some forces need contact between two objects, but magnetic forces can act at a distance. • I can observe how magnets attract or repel each other and attract some materials and not others. • 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. • I can describe magnets as having two poles. • I can predict whether two magnets will attract or repel each other, depending on which poles are facing. • I can recognise that we need light in order to see things and that dark is the absence of light. • I can notice that light is reflected from surfaces. • I can recognise that light from the sun can be dangerous and that there are ways to protect my eyes. • I can recognise that shadows are formed when the light from a light source is blocked by an opaque object. • I can find patterns in the way that the size of shadows change.	• I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. • 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. • I can investigate the way in which water is transported within plants. • I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

	Working Scientifically **runs throughout and will be covered in some way during each lesson**
Vocabulary	comparative/fair testing, research, observation over time, identifying grouping and classifying, problem solving, investigate, question, predict, method, fair test, answer, results, record, data, diagram, present, describe, conclusion, identify, compare, observe, group, sort, classify, equipment
I will know….	I can ask relevant questions and use different types of scientific enquiries to answer them. I can set up simple practical enquiries, comparative and fair tests. I can make systematic and careful observations and, where appropriate, take accurate measurements using standard units, use a range of equipment, including thermometers and data loggers. I can gather, record, classify and present data in a variety of ways to help in answering questions. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. I can use results to come to simple conclusions, make predictions for new values, suggest improvements and raise further questions. I can identify differences, similarities or changes related to simple scientific ideas and processes. I can use straight forward scientific evidence to answer questions or to support my findings.