Science- Substantive Knowledge Map

Unit	Year 3	Vocabulary	Retrieval Opportunities
Animals Including Humans	• 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 other animals have skeletons and muscles for support, protection and movement.	nutrition, vitamins, minerals, fat, protein, carbohydrates, fibre, water, skeletons, support, protection, skull, brain, ribs, heart, lungs, movement, joint, muscles, pull, contract, relax, diet	Homework activities based upon current topic Resources: window shelf greenhouse and garden, books, nutrition wall/different food groups, fossil and rock display. Activities: Plant doctor (looking after plants), world watch (threats to environment), Jurassic Park (fossils), Magnetic ice (freezing magnets)
Plants	• 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.	**Structure:** flowering plants, roots, stem/trunk, leaves, flowers **Function:** nutrition, support, reproduction, makes its own food **Requirements for life and growth:** air, light, water, nutrients from the soil, room to grow, needs vary, fertiliser Life cycle: flowers, pollination, seed formation, seed dispersal	
Rocks	• 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.	appearance, physical, properties, hard/soft, shiny/dull, rough/smooth, absorbent/not absorbent, fossils, sedimentary, rock, soils, organic matter, buildings, gravestones, grains, crystals	

Light	• 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.	light, see, dark, reflect, surface, natural, star, Sun, Moon, shadow, blocked, solid, artificial, torch, candle, lamp, sunlight, dangerous, protect eyes.	
Forces and magnets	• Compare how things move on different surfaces. • Notice that some forces need contact between 2 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 2 poles. • predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	attract, attraction, compass, faster, force, friction, heat, increase, magnet, magnetic, magnetic field, magnetic poles, metals, moving, non-magnetic, North Pole, pull, push, reduce, repel, repulsion, resistance, slower, South Pole, strong, surface, twist, weak.	