

Y3 Science	TERM 1A		TERM 1B		TERM 2		TERM 3A		TERM 3B	
	Living things and their habitats Visits: Gardening club linked to plants, Richmond Park linked to plants and habitats		Light		Rocks		Plants		Forces and magnets	
	Key knowledge To know animals can be grouped based upon their characteristics. To know what vertebrates and invertebrates are. To know what a food chain is and use one. To know about the work of David Attenborough.	Key skills To be able to recognise that living things can be grouped in a variety of ways. To be able to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. To be able to create a scientific diagram of an invertebrate. To be able to recognise that environments can change and that this can sometimes pose dangers to living things. To be able to construct and interpret a variety of food chains, identifying producers, predators and prey.	Key knowledge To know light travels in a straight line. To know how to recognise that light comes from different sources: a primary and secondary source. To understand that a primary light source is an object which produces its own light. For example: fire, light bulbs, the sun, stars and electricity. To understand that a secondary light source is an object which reflects light from a primary light source. It does not produce its own light. For example: the moon, mirrors, glass, motorway signs, metal and water. To know that a reflection is an image created on a (usually flat and shiny) surface e.g. a window pane, water, mirror. To know that light from the sun is dangerous and that we can protect our eyes and skin from it. To understand how and why the size of shadows change. To know how to consolidate learning that you need light in order to see things and that dark is the absence of light. To know how to consolidate learning that shadows are formed when the light from a light source is blocked by an opaque object.	Key skills To be able to notice that light is reflected from surfaces and design a fair test to investigate reflection. To be able to predict whether materials are good reflectors or poor reflectors. To be able to draw accurate conclusions after investigating. To be able to begin to use a data-logger to measure light in lux. To be able to record findings in a bar chart. To be able to observe the size of the shadows change over time. To be able to accurately label a diagram to show the direction that light is traveling in. To be able to find patterns in the way that the size of shadows change.	Key knowledge To know that soil is made up of tiny particles of rock, dead plants, dead animals, air and water. To know that there are three types of rocks: igneous, sedimentary and metamorphic. To understand that fossils are formed when things that have lived are trapped within rock. To know that there are different types of soils: sand, clay and loam. To know that sand soil has large particles and is pale coloured. It is permeable. To know that clay soil is usually sticky and has small particles. It is impermeable. To know that loam soil is made from decayed plants and is dark, crumbly and rich in nutrients. It is permeable and is the best to use for plants. To know that Mary Anning was a famous fossil hunter. To know that soil is made up of different layers (bedrock, weathered rocks, subsoil, top soil and humus).	Key skills To be able to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To be able to explore the hardness of slate, granite and chalk. To be able to predict the porosity and permeability of different rocks (granite, slate or chalk), investigate and draw a hypothesis based on the results. To be able to observe that soils are made from rocks and organic matter. To be able to compare and group different kinds of soil. To be able to test the permeability of different soils.	Key knowledge To know that the stem transports water to the plant and holds it up straight. To know that the roots absorb water and nutrients for the plant and anchor it to the ground. To know that the flower attracts pollinators for reproduction. To know that the leaves absorb sunlight for photosynthesis. To know what a plant needs to live and grow: air, light, water, space and nutrients. To know that Marianne North was a biologist and botanical artist who studied features of various plants.	Key skills To be able to explore the requirements of plants for life by setting up a fair test with different variables and a control. To be able to investigate the way in which water is transported within plants. To be able to research using secondary sources and observation; identifying and classifying; comparative and fair testing; carrying out a survey and presenting data in a bar chart; scientific enquiry.	Key knowledge To know that a force is a push, pull or twist that causes an object to move or change shape. To know that magnets are mostly made from iron. To know that magnets have two poles: the north pole and the south pole. To know that magnetic field lines were first examined by Michael Faraday and later by James Clerk Maxwell.	Key skills To be able to notice that magnetic forces can act at a distance. To be able to observe how magnets attract or repel each other and attract some materials and not others. To be able to 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. To be able to describe magnets as having two poles. To be able to predict whether two magnets will attract or repel each other, depending on which poles are facing.
	Key vocabulary (tier 2) characteristics construct diagram environment explore group identify interpret key recognise research result variety	Key vocabulary (tier 3) consumer David Attenborough ecosystem environment food chain habitat interdependence invertebrate organism predator prey primary producer producer	Key vocabulary (tier 2) absence block conclude diagram explain identify investigate label measure object pattern predict protect	Key vocabulary (tier 3) data logger opaque primary source secondary source translucent transparent	Key vocabulary (tier 2) appearance compare describe explain feature observe rock test soil	Key vocabulary (tier 3) alphabetical bedrock clay crystal fossil granite humus hypothesis igneous rock impermeable limestone loam matter	Key vocabulary (tier 2) anchor attract classify compare data enquiry features flower identify investigate leaf predict research	Key vocabulary (tier 3) bar chart biologist control dispersal fair test germination Marianne North nutrients pollinator reproduce stamen stigma transportation	Key vocabulary (tier 2) compare describe distance force magnet magnetic material observe predict	Key vocabulary (tier 3) attract cobalt gravity iron iron filings James Clerk Maxwell magnetic field Michael Faraday nickel north pole repel south

		vertebrate	record reflection shadow source straight surface			metamorphic rock organic permeability permeable physical properties porosity porous rock sedimentary rock slate subsoil weathered	root stem straight survey test transport absorb	variables		steel
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