Science Skills KS1 *Highlighted skills added May 2020 cross referenced with NC*							
Generate Ideas & Predict (GIP): Observe and explore to generate ideas, define problems and pose questions in order to develop investigations and products. **Working Scientifically** 1. I can ask simple questions and recognise that they can be answered in different ways. **Investigate, Observe & Record (IOR):** Engage safely in practical investigations and experiments and gather and record evidence by observation and measurement.							**Vocabulary**
	Working Scientifically ELG/Year 1/ Year 2	**Plants around us**	**Ourselves and other Animals (Animals)**	**Everyday materials**	**Seasons**		
ELG/Year 1	Ask simple questions and recognise that they can be answered in different ways. Observe closely and use simple equipment. I can perform simple tests. I can identify and classify. Make observations and have ideas to suggest answers to questions raised. I can gather and record data to help in answering questions.	I can identify and name some plants and the different parts.	I can identify and name a variety of common animals.	I can distinguish between an object and the materials from which it is made.	I can name the four seasons and observe changes.		**Plants around us:** grow; germinate; produce; reproduce; seed; seedlings; animal; plant; in; on; under; beneath; within; next to; beside; inside; over; above; babies; children; adult humans; eggs; chicks; chickens; **Ourselves and other animals:** living; non-living; compare; same; different; describe; hear; see; taste; smell; touch; eyes; ears; nose; mouth; chin. **Everyday materials:** property; group; changing materials; natural; manufactured; raw material; metal; shiny; hard; cold; plastic; smooth; bendy; wooden; warm; firm; lather; soft; smooth; squashy; magnet; magnetic; non-magnetic; non-metals; freeze; boil; toast; fry; burn; rip; tear; cut; slice; chop; grate; dice; shred; melt. **Seasons;** summer; autumn; spring; winter; sun; day; moon; night; light; dark.
		I can identify the basic structure of well known plants.	I can identify, name, draw and label the basic parts of the human body.	I can compare group; identify and name a variety of materials on the basis of their simple physical properties including wood, plastic, glass, metal, water and rock.	I can identify seasonal weather, light and day length.		

			I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds & mammals including pets).	I can describe the simple physical properties of a variety of everyday materials.			
	Working Scientifically ELG/Year 1/ Year 2	**Y2 Plants**	**Be Healthy/Animals**	**Uses of Everyday Materials**	**Living things and their habitats**		
Year 2	Ask simple questions and recognise that they can be answered in different ways. Observe closely and use simple equipment. I can perform simple tests. I can identify and classify. Make observations and have ideas to suggest answers to questions raised. I can gather and record data to help in answering questions.	I can observe and describe how seeds and bulbs grow into mature plants.	I can describe the basic needs animals and humans need to survive.	I can identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard. I can find out how the shapes of solid objects can be changed by squashing, twisting, bending and stretching.	I can explore and compare the differences between things that are living, dead, and things that have never been alive.		**Plants: seeds;** bulb; water; light; temperature; growth. **Be healthy/animals;** survival; water; air; food; adult; baby; offspring; kitten; calf; puppy; exercise; hygiene. **Uses of everyday materials:** hard; soft; stretchy; stiff; shiny; dull; rough; smooth; bendy; waterproof; absorbent; opaque; transparent; brick; paper; fabric; squashing; bending; twisting; stretching; elastic; foil. **Living things and their habitats:** living; dead; habitat; energy; food chain; predator; prey; woodland; pond; desert.
		I can describe how plants need water, warmth and light to grow into healthy plants.	I can describe the importance of exercise and eating healthy.				

					I can identify and name a variety of plants and animals in their habitats, including micro-habitats		
					I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.		
Year 3	**Working Scientifically** **Y3/4**	**Y3 Plants**	**Animals**	**Rocks**	**Light**	**Forces and Magnets**	
	I can relevant questions and using different types of	I can identify and describe the functions of	I can identify that humans and some animals have	I can compare and group together	I can recognise that we need light in order to see	I can notice that some forces need contact between	**Plants:** air; water; light; nutrients; soil; reproduction; transportation; dispersal; pollination; flower

	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, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. I can gather, record, classify and present data in a variety of ways to help answer questions. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables	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 lifecycle of flowering plants, including pollination, seed formation and seed dispersal.	skeletons and muscles for support, protection and movement. I can name different parts of humans and animal bodies. I can explain the nutritional needs of humans and some animals and that they cannot make their own food; they get nutrition from what they eat.	different kinds of rocks on the basis of their appearance and simple physical properties. I can recognise that soils are made from rocks and organic matter. I can describe in simple terms how fossils are formed when things that have lived are trapped within a rock.	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 our eyes. I can recognise that shadows are formed when the light from a light source is blocked by a solid object. I can find patterns that determine the size of shadows and how they change.	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 compare how things move on different surfaces. 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.	**Animals:** movement; muscles; bones; skull; nutrition; skeletons. **Rocks**: fossils; soils; sandstone; granite; marble; pumice; cyrstals; absorbent. **Light:** light; shadows; mirror; reflective; dark; reflection. **Forces and magnets:** magnetic; force; contact; attract; repel; friction; poles; push; pull

	Working Scientifically Y3/4	Y4 All Living Things	Animals	States of Matter	Music/sound	Electricity	
Year 4	I can report on findings from enquiries (oral/written explanations, displays/presentations of results and conclusions). I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. I can use results to draw 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. 9. I can use straightforward scientific evidence to answer questions or to	I can explore and use classification keys to help group, identify and name a variety of living things. I can recognise that environments can change and that this can sometimes pose dangers to living things. I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	I can describe the simple functions of the basic parts of the digestive system in humans. I can identify the different types of teeth in humans and their simple functions. I can construct and interpret a variety of food chains, identifying producers, predators and their prey.	I can compare and group materials together, according to whether they are solids, liquids or gases. I can observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius. I can describe in simple terms the states of matter of solids, liquids and gases. I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with	I can identify how sounds are made, associating some of them with something vibrating. I can recognise that vibrations from sounds travel through a medium to the ear. I can find patterns between the pitch of a sound and features of the object that produced it. I can find patterns between the volume of a sound and the strength of the vibrations that produced it. I can recognise that sounds get fainter as the distance from the sound source increases.	I can identify common appliances that run on electricity. I can construct a simple series circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. I can identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with the battery. I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	**All living things:** vertebrates; fish; amphibians; reptiles; birds; mammals; invertebrates; snails; slugs; worms; spiders; insects; environment; habitats. **Animals:** mouth; tongue; teeth; oesophagus; stomach; small intestine; large intestine; herbivore; carnivore; canine; incisor; molar. **States of matter:** solid; liquid; gas; evaporation; condensation; particles; temperature; freezing; heating. **Music/sound:** volume; vibration; wave; pitch; tone; speaker. **Electricity:** cells; wires; bulbs; switches; buzzers; battery; circuit; series; conductors; insulators.

	support their findings.			temperature.		I can recognise some common conductors and insulators, and associate metals with being good conductors.	
	Working Scientifically Y5/6	**Y5 Properties and Materials**	**Forces**	**Living things and their habitats**	**Animals, including humans**	**Earth and space**	
Year 5	I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter	I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. I can compare and group together everyday materials materials on the basis of their properties, including their hardness, solubility, transparency, conductivity	I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces. I can recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a	I can describe the differences in the life cycles of mammals, amphibians, insects and birds. I can describe the life cycles of reproduction in plants and animals.	I can describe the life cycle of humans and identify changes as humans develop to old age. I can explore the gestation periods of different animals and compare them with humans.	I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system. I can describe the movement of the Moon relative to the Earth. I can describe the Sun, Earth and Moon as approximately spherical bodies. I can describe how the Earth's rotation causes day and night and the apparent movement of the Sun across	**Properties and materials:** hardness; solubility; transparency; conductivity; magnetic; filter; evaporation; dissolving; mixing. **Forces:** Air resistance; water resistance; friction; gravity; Newton; gears; pulleys. **Living things and their habitats:** mammal; reproduction; insect; amphibian; bird; offspring. **Animals including humans:** foetus; embryo; womb; gestation; baby; toddler; teenager; elderly; growth; development; puberty. **Earth and space**: Earth; Sun; Moon; axis; rotation; day; night; phases of the moon; star; constellation.

Year 5	graphs, bar and line graphs. I can use test results to make predictions to set up further comparative and fair tests.	(electrical and thermal), and response to magnets. I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. I can explore and compare reversible and irreversible changes demonstrating that dissolving, mixing and changes of state are reversible changes. I can explain irreversible changes including changes associated with burning and the action of acid on bicarbonate of soda.	greater effect.			the sky.	
	Working Scientifically Y5/6	**Y6 Living Things**	**Animals**	**Evolution**	**Electricity**	**Light**	

	I can report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and presentations. I can identify scientific evidence that has been used to support or refute ideas or arguments.	I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. I can give reasons for classifying plants and animals based on specific characteristics. I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.	I can recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function.	I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	I can use recognised symbols when representing a simple circuit in a diagram. I can compare and give reasons for variations in how components function, including the brightness of bulbs, loudness of buzzers and on/off positions of switches. I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.	I can recognise that light appears to travel in straight lines and that this explains how objects are seen because they give out of reflect light into the eye. I can explain that We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	**Living Things:** classification; vertebrates; invertebrates; micro-organisms; amphibians; reptiles; mammals; insects. **Animals:** circulatory; heart; blood; vessels; veins; arteries; oxygenated; deoxygenated; valve; exercise; respiration. **Evolution:** fossils; adaptation; evolution; characteristics; reproduction; genetics. **Electricity:** cells; wires; bulbs; switches; buzzers; battery; circuit; series; conductors; insulators; amps; volts; cell. **Light:** refraction; reflection; light; spectrum; rainbow; colour.