Science Knowledge Progression Document

Strands
At key stage 2, the knowledge progression takes full account of the national curriculum's strands of: • Biology • Chemistry • Physics • Working Scientifically

Science Curriculum Map

	T1	T2	T3	T4	T5	T6
Year 3	Geology • To know how to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties (e.g. metamorphic, igneous and sedimentary). • To know and be able to describe, in simple terms, how fossils are formed when things that have lived are trapped within rock. • To know that soils are made from rocks and organic matter. • To know how rocks, change over time. • To explore the work of Mary Anning • *To know that a prediction can be used to explain the effect something has.* • *To know how to predict cause and effect using a causal conjunction (because).*	Kinetics • To know how to compare how objects move on different surfaces depending on the properties from which they are made. • To know that some forces need contact between two objects, but magnetic forces can act at a distance. • To know how different magnets can have different strengths. • To know how to observe how magnets attract or repel each other and attract some materials and not others. • To know how 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 know 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. • To know how magnets can be damaged if they are dropped. • To explore the work of Albert Einstein. Optics	Anatomy • To know 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. • To know that humans and some other animals have skeletons and muscles for support, protection and movement.			Ecology • To know the functions of different parts of trees and plants, including the stem/trunk, flower, blossom, petals, seeds, leaves, roots, branches. • To know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and understand how they vary from plant to plant • To know the way in which water is transported within plants. • To know the importance of leaves for nutrition and flowers for reproduction. • *To know how to ask questions which can be answered by carrying out scientific enquiry.* • *To know that that standard units of measure can be used to take recordings – g, kg, m, cm, mm, l, ml.* • *To know how to measure using standard units of measure (g, kg, m, cm, mm, l, ml)* • *To know how to represent data in a bar graph.* • *To know how to use results to draw conclusions.* • *To know how to use my conclusion to ask further questions.*

		• To know that light is needed in order to see things and that dark is the absence of light. • To know that light is reflected from surfaces. • To know that light from the sun can be dangerous and that there are ways to protect their eyes. • To know that shadows are formed when the light from a light source is blocked by an opaque object. • To be able to find patterns in the way that the size of shadows changes. • *To know that questions can be asked and answered by carrying out scientific enquiry.* • *To know that results are used to draw simple conclusions and raise further questions.* • *To know that scientific evidence is used to answer questions or to support findings.* • *To know how to measure tests using a range of equipment.* • *To know how to measure tests using a range of equipment with increasing accuracy (data loggers).* • *To know that observations can depend on conditions for scientific enquiry.* • *To know how to identify the conditions that change when carrying out scientific enquiry.*				
Year 4	Acoustics • To know how sounds are made and understand that these create vibrations in the air. • To know that vibrations from sounds, travel through a medium to the ear. • To know how to find patterns between the pitch of a sound and features of the object that produced it. • To know that there is a pattern between the volume of a sound and the strength of the vibrations that produced it.	Anatomy • To Know the simple functions of the basic parts of the digestive system in humans (mouth, tongue, teeth, oesophagus, stomach, small and large intestines). • To know the different types of teeth in humans and their simple functions. • To know and interpret a variety of food chains, identifying producers, predators and prey. • To know the difference between vertebrates and invertebrates and		Electrology • To know that common appliances that run on electricity • To know that a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • To know whether or not a lamp will light in a simple series circuit, based on whether or not	Geology • To know how to compare and group materials together, according to whether they are solids, liquids or gases. • To know that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). • To know the part played by evaporation and	Ecology • To know that living things can be grouped in a variety of ways. • To know how to use classification keys to help group, identify and name a variety of living things in their local and wider environment. • To know that environments can change and that this can sometimes pose dangers to living things. • *To know that conclusions can be drawn from patterns, similarities and differences.*

	• To know that sounds get fainter as the distance from the sound source increases. • *To know how to predict a trend (relationship prediction) using a causal conjunction (because).* • *To know how to ask relevant scientific questions to be answered by carrying out scientific enquiry.* • *To know how to take accurate measurements in standard units.* • *To know that that results are recorded in different ways – measurements, tallies, drawings, labelled diagram, tables/charts, pictures.* • *To know how to record data appropriately using measurements, tallies, drawings, labelled diagrams, tables/charts and pictures.* • *To know how to measure tests using a range of equipment with increasing accuracy (thermometers and data loggers).*	to sort a range of creatures using this property. • *To know that that observations for scientific enquiries are limited by the accuracy of the measurements and use of equipment.* • *To know how to make systematic observations.*		the lamp is part of a complete loop with a battery • To know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • To know some common conductors and insulators, and associate metals with being good conductors. • *To know that a prediction can be used to explain the trend (relationship) between two things.* • *To know that that in a fair test one variable is changed and one variable is measured while all other conditions are kept the same.* • *To know how to choose and alter appropriate variables whilst all other conditions are kept the same.* • *To know how to interpret data using measurements, tallies, drawings, labelled diagrams, tables/charts and pictures.*	condensation in the water cycle and associate the rate of evaporation with temperature. • *To know that that relevant scientific questions need to be asked and answered through different types of scientific enquiries.*	• *To know how to use the change in patterns, similarities and differences I have seen to help draw conclusions.* • *To know how to report on findings from enquiries through oral and written explanations, displays or presentations.*
Year 5	Taxonomy • To know and be able to describe the differences in the life cycles of a mammal, an amphibian, a reptile, an insect and a bird. • To know the life process of reproduction in some plants and animals • *To know that scientific knowledge can be used to explain a prediction.*	Astrophysics • To know the movement of the Earth, and other planets, relative to the Sun in the solar system. • To know and be able to describe the movement of the Moon relative to the Earth. • To know that the Sun, Earth and Moon are approximately spherical bodies. • To know how to use the idea of the Earth's rotation to explain day and night and the apparent	Geology • To know how to compare and group materials together, according to whether they are solids, liquids or gases. • To know that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). • To know the part played by evaporation and condensation in the water cycle and associate		Astrophysics • To know that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • To know the effects of air resistance, water resistance and friction, that act between moving surfaces. • To know how to explore up thrust and investigate how to sink a bottle. • To know how to explore the weight of air by investigating inflated and deflated balloons. • To know how to investigate water resistance by creating different sized boats for hulls. • To know how to investigate how the size of a boat's hull affects the speed of its movement.	

		movement of the sun across the sky. *• To know that that keeping observations as consistent as possible can improve enquiry.* *• To know how to take accurate measurements with increasing accuracy and precision.* *• To know how to think of their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.*	the rate of evaporation with temperature. • To know the effects of acidity on a range of rocks *• To know that how to accurately use further test measuring devices, including digital and analogue scales, measuring cylinders and beakers.* *• To know how to use digital and analogue scales, measuring cylinders and beakers.* *• To know how to report and present findings from enquiries – including conclusions, causal relationships and explanations and degree of trust in results.*		*• To know how to use prior knowledge to make a relationship prediction and explain it using scientific knowledge.* *• To know that scientific knowledge can be used to explain a prediction.* *• To know how to use test results to make predictions for further tests* *• To know that how and when to repeat tests and measurements.* *• To know how to justify the necessity to change elements* *• To know how to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.* *• To know how to choose specific/appropriate methods of recording.* *• To know how to identify relationships within results* *• To know that how to plan for different types of scientific enquiries to answer questions - including recognizing and controlling variables when necessary.*	
Year 6	Human Biology & Taxonomy Human Biology • To know that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. • To know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • To know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • To know the work of Grace Hopper, Charles Darwin, Sir Tim Berners-Lee, Rosalind Franklin, Wilhelm Röntgen and Esther Lederberg. Taxonomy • To describe the differences in the life cycles of a mammal, an amphibian, a reptile, an insect and a bird. • To describe the life process of reproduction in some plants and animals • To know that living things have changed over time and that fossils provide information about living		Human Biology • To know the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. • To know the impact of diet, exercise, drugs and lifestyle on the way their bodies function. • To know the ways in which nutrients and water are transported within animals, including humans. *• To know that predictions can be justified using scientific knowledge.* *• To know how to use prior knowledge to make a hypothesis about a relationship between two things and justify it using scientific knowledge.*			Electrology & Optics Electrology • To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • To compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • To use recognised symbols when representing a simple circuit in a diagram Optics • To know that light appears to travel in straight lines. • To know how to usethe idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. • To know that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. • To know how to use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

	things that inhabited the Earth millions of years ago. • To know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • To know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • To explore the work of Grace Hopper, Charles Darwin, Sir Tim Berners-Lee, Rosalind Franklin, Wilhelm Röntgen and Esther Lederberg. *• To know how and when to repeat observations for scientific enquiries to vary conditions and make improvements.* *• To know how to take accurate measurements and take repeated readings when necessary.* *• To know that which testing equipment to choose to carry out a scientific enquiry.* *• To know that how to identify conditions that were imperfectly controlled and explain how these might affect results.* *• To know how to choose appropriate equipment.* *• To know how to control variables.*					• To explore the work of Sir Isaac Newton, Alhazen, Kepler and James Clerk Maxwell *• To know that predictions can be justified using scientific knowledge.* *• To know how to use prior knowledge to make a hypothesis about a relationship between two things and justify it using scientific knowledge.* *• To know how to use test results to make predictions for further comparative and fair tests.* *• To know how to draw conclusions based on data and observations and use evidence to justify ideas using scientific knowledge and language.* *• To know that how to recognise and remove outliers from a set of data.* *• To know that what discrete and continuous data is.* *• To know how to justify the removal of outliers from a set of data.* *• To know how to select appropriate data to justify conclusions.* *• To know how to identify anomalies within results and use these to inform my conclusions* *• To know how and when to repeat different types of scientific enquires to answer questions.* *• To know how to repeat different types of scientific enquiries.*

Strand	Year 3	Year 4	Year 5	Year 6
Biology				
Living things and their habitats		**Ecology** • To know that living things can be grouped in a variety of ways. • To know how to use classification keys to help group, identify and name a variety of living things in their local and wider environment	**Taxonomy** • To know the differences in the life cycles of a mammal, an amphibian, a reptile, an insect and a bird. • To know the life process of reproduction in some plants and animals	**Taxonomy** • To know the differences in the life cycles of a mammal, an amphibian, a reptile, an insect and a bird. • To know the life process of reproduction in some plants and animals

		• To know that environments can change and that this can sometimes pose dangers to living things.		
Animals including humans	**Anatomy** • To know 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 • To know that humans and some other animals have skeletons and muscles for support, protection and movement.	**Anatomy** • To know the simple functions of the basic parts of the digestive system in humans (mouth, tongue, teeth, oesophagus, stomach, small and large intestines). • To know the different types of teeth in humans and their simple functions • To know how to construct and interpret a variety of food chains, identifying producers, predators and prey. • To know the difference between vertebrates and invertebrates and to sort a range of creatures using this property.		**Human Biology** • To know the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • To know the impact of diet, exercise, drugs and lifestyle on the way their bodies function • To know the ways in which nutrients and water are transported within animals, including humans.
Plants	**Ecology** • To know, and be able to describe, the functions of different parts of trees and plants, including the stem/trunk, flower, blossom, petals, seeds, leaves, roots, branches. • To know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and understand how they vary from plant to plant • To know the way in which water is transported within plants. • To know the importance of leaves for nutrition and flowers for reproduction.			
Nutrition, Evolution and inheritance				**Human Biology** • To know that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • To know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • To know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **• To know the work of Grace Hopper, Charles Darwin, Sir Tim Berners-Lee, Rosalind Franklin, Wilhelm Röntgen and Esther Lederberg.**

Chemistry				
Everyday Materials and uses of everyday materials				
Rocks and States, and changes, of Matter	**Rocks** • To know how to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties (e.g. metamorphic, igneous and sedimentary). • To know how to describe in simple terms how fossils are formed when things that have lived are trapped within rock • To know that soils are made from rocks and organic matter. •To understand how rocks, change over time. **•To explore the work of Mary Anning**	**Geology** • To know how to compare and group materials together, according to whether they are solids, liquids or gases. • To know how to 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 (°C). • To know the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. • To know the effects of acidity on a range of rocks	**Geology** • To know how to compare and group materials together, according to whether they are solids, liquids or gases. • To know that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). • To know and be able to describe in detail the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. • To know effects of acidity on a range of rocks	
Physics				
Seasonal Changes **Earth and Space**			**Astrophysics** • To know the movement of the Earth, and other planets, relative to the Sun in the solar system. • To know, and be able to describe, the movement of the Moon relative to the Earth. • To know how to describe the Sun, Earth and Moon as approximately spherical bodies. • To know how to use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	
Forces and Magnets	**Kinetics** • To know how to compare how objects move on different surfaces depending on the properties from which they are made. • To know that some forces need contact between two objects, but magnetic forces can act at a distance. • To know how different magnets can have different strengths.		**Astrophysics** • To know that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • To know the effects of air resistance, water resistance and friction, that act between moving surfaces. • To know how to explore up thrust and investigate how to sink a bottle. •To know how to explore the weight of air by investigating inflated and deflated balloons.	**Forces and Magnets**

	• To know how magnets, attract or repel each other and attract some materials and not others. • To know how 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 know that magnets have two poles. •To be able to predict whether two magnets will attract or repel each other, depending on which poles are facing. • To know that magnets can be damaged if they are dropped. **• To know the work of Albert Einstein.**		• To know how to investigate water resistance by creating different sized boats for hulls. • To know how to investigate how the size of a boat's hull affects the speed of its movement. • To know how to design parachutes and explore how shape can limit/extend the amount of drag. • To know that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	
Light	**Optics** • To know that light is needed in order to see things and that dark is the absence of light. • To know that light is reflected from surfaces. • To know that light from the sun can be dangerous and that there are ways to protect their eyes. To recognise that shadows are formed when the light from a light source is blocked by an opaque object. • To know how to find patterns in the way that the size of shadows changes.			**Optics** • To know that light appears to travel in straight lines. • To know how to use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. • To know that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. • To know how to use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. **• To know the work: Sir Isaac Newton, Alhazen, Kepler and James Clerk Maxwell**
Electricity		**Electrology** • To know common appliances that run on electricity • To know how to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • To know 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 a battery • To know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • To know some common conductors and insulators, and associate metals with being good conductors.		**Electrology** • To know how to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • To know how to compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • To know how to use recognised symbols when representing a simple circuit in a diagram
Sound		**Acoustics**		

		• To know how sounds are made and understand that these create vibrations in the air. • To know that vibrations from sounds, travel through a medium to the ear. • To know how to find patterns between the pitch of a sound and features of the object that produced it. • To know how to find patterns between the volume of a sound and the strength of the vibrations that produced it • To know that sounds, get fainter as the distance from the sound source increases.		
To know that results are used to draw simple conclusions and raise further questions. ***To know that scientific evidence is used to answer questions or to support findings.*** ***To know how to use results to draw conclusions.*** ***To know how to use my conclusion to ask further questions.***		***To know that conclusions can be drawn from patterns, similarities and differences.*** ***To know how to use the change in patterns, similarities and differences I have seen to help draw conclusions.*** ***To know how to report on findings from enquiries through oral and written explanations, displays or presentations.***	***To know how to report and present findings from enquiries – including conclusions, causal relationships and explanations and degree of trust in results.*** ***To know how to identify relationships within results.***	***To know how to draw conclusions based on data and observations and use evidence to justify ideas using scientific knowledge and language.*** ***To know how to select appropriate data to justify conclusions.*** ***To know how to identify anomalies within results and use these to inform my conclusions***
Conclusion, scientific evidence, findings		Changes, similarities, differences	Relationships	Anomalies, justify
To know that that standard units of measure can be used to take recordings – g, kg, m, cm, mm, l, ml. ***To know how to measure using standard units of measure (g, kg, m, cm, mm, l, ml)*** ***To know how to represent data in a bar graph.***		***To know that that results are recorded in different ways – measurements, tallies, drawings, labelled diagram, tables/charts, pictures.*** ***To know how to record data appropriately using measurements, tallies, drawings, labelled diagrams, tables/charts and pictures.*** ***To know how to interpret data using measurements, tallies, drawings, labelled diagrams, tables/charts and pictures.***	***To know how to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.*** ***To know how to choose specific/appropriate methods of recording.***	***To know that how to recognise and remove outliers from a set of data.*** ***To know that what discrete and continuous data is.*** ***To know how to justify the removal of outliers from a set of data.***
Standard units of measure		Present, interpret	Method	Outliers
To know that observations can depend on conditions for scientific enquiry. ***To know how to identify the conditions that change when carrying out scientific enquiry.***		***To know that that observations for scientific enquiries are limited by the accuracy of the measurements and use of equipment.*** ***To know how to make systematic observations.*** ***To know how to take accurate measurements in standard units.***	***To know that that keeping observations as consistent as possible can improve enquiry.*** ***To know how to take accurate measurements with increasing accuracy and precision.***	***To know how and when to repeat observations for scientific enquiries to vary conditions and make improvements.*** ***To know how to take accurate measurements and take repeated readings when necessary.***
Depend		Enquiry, systematic, accurate	Consistent, precision	Repeat, conditions
To know that a prediction can be used to explain the effect something has. ***To know how to predict cause and effect using a causal conjunction (because).***		***To know how to predict a trend (relationship prediction) using a causal conjunction (because).***	***To know how to use prior knowledge to make a relationship prediction and explain it using scientific knowledge.*** ***To know that scientific knowledge can be used to explain a prediction.***	***To know that predictions can be justified using scientific knowledge.*** ***To know how to use prior knowledge to make a hypothesis about a relationship between two things and justify it using scientific knowledge.***

	To know that a prediction can be used to explain the trend (relationship) between two things.	***To know how to use test results to make predictions for further tests***	***To know how to use test results to make predictions for further comparative and fair tests.***
Explain, cause, effect	Trend	Scientific knowledge	Hypothesis, justify
To know that questions can be asked and answered by carrying out scientific enquiry. ***To know how to ask questions which can be answered by carrying out scientific enquiry.***	***To know how to ask relevant scientific questions to be answered by carrying out scientific enquiry.*** ***To know that that relevant scientific questions need to be asked and answered through different types of scientific enquiries.***	***To know that how to plan for different types of scientific enquiries to answer questions - including recognizing and controlling variables when necessary.*** ***To know how to think of their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.***	***To know how and when to repeat different types of scientific enquires to answer questions.*** ***To know how to repeat different types of scientific enquiries.***
Scientific enquiry	Relevant	Variables, control	Repeat, attribute, check, organise
To know that that how to measure tests using a range of equipment. ***To know how to measure tests using a range of equipment with increasing accuracy (data loggers).***	***To know that that in a fair test one variable is changed and one variable is measured while all other conditions are kept the same.*** ***To know how to choose and alter appropriate variables whilst all other conditions are kept the same.*** ***To know how to measure tests using a range of equipment with increasing accuracy (thermometers and data loggers).***	***To know that how to accurately use further test measuring devices, including digital and analogue scales,*** ***measuring cylinders and beakers.*** ***To know that how and when to repeat tests and measurements.*** ***To know how to use digital and analogue scales, measuring cylinders and beakers.*** ***To know how to justify the necessity to change elements***	***To know that which testing equipment to choose to carry out a scientific enquiry.*** ***To know that how to identify conditions that were imperfectly controlled and explain how these might affect results.*** ***To know how to choose appropriate equipment.*** ***To know how to control variables.***
Measure, range of equipment, suitable	Variable, conditions, alter	Accurate, repeat tests	Controlled, control test

Oracy – '*Talk like a …*' Scientist Progression

Strand	Year 3	Year 4	Year 5	Year 6
Biology				
All living things and their habitats		Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate	Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering
Animals, including humans	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine	Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain		Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle
Plants	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)			

Nutrition and Evolution and Inheritance				Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils
Chemistry				
Everyday Materials and uses of everyday materials				
Rocks and States, and changes, of Matter	Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil	Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle	Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material	
Physics				
Seasonal Changes **Earth and Space**			Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets	
Forces and Magnets	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole		Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears	
Light	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous			straight lines, light rays
Electricity		Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol		Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage
Sound		Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation		