Year Group	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Scientific knowledge and conceptual understanding/ Working scientifically **The nature, processes and methods of science**.	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)	Ask simple questions and recognising that they can be answered in different ways Observe closely, using simple equipment. Perform simple tests Identifying and classifying. Use their observations and ideas to suggest answers to questions. Gather and record data to help in answering questions. Explore the world around them and raise their own questions. Experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions.	Ask simple questions and recognising that they can be answered in different ways Observe closely, using simple equipment. Perform simple tests Identifying and classifying. Use their observations and ideas to suggest answers to questions. Gather and record data to help in answering questions. Explore the world around them and raise their own questions. Experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice	Ask relevant questions and using different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gather, recording, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions, make predictions for new values, suggest	Ask relevant questions and using different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gather, recording, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Use test results to make predictions to set up further comparative and fair tests. Report and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identify scientific evidence that has been used to support or refute ideas or arguments Explore ideas and raise different kinds of	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Use test results to make predictions to set up further comparative and fair tests. Report and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identify scientific evidence that has been used to support or refute ideas or arguments Make their own decisions about what observations to make, what measurements to use and how long to

			patterns and relationships. Ask people questions and use simple secondary sources to find answers. Use simple measurements and equipment to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.	improvements and raise further questions. Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings. Recognise when a simple fair test is necessary and help to decide how to set it up. Talk about criteria for grouping, sorting and classifying; and use simple keys.	Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings. Make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. They should help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. They should collect data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data. With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data they	questions; select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment.	make them for, and whether to repeat them; choose the most appropriate equipment to make measurements and explain how to use it accurately. Decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations might be needed; recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact. Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.

					have collected and finding ways of improving what they have already done.		
Plants	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)	identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees. use the local environment throughout the year to explore and answer questions about plants growing in their habitat Become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, and stem). Compare and contrast familiar plants; describing how they were able to identify and group them. Draw diagrams labelling the parts of plants and trees.	Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants. Set up a comparative test to show that plants need light and water to stay healthy.	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. Explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction. Compare the effect of different factors on plant growth, for example, the amount of light, the amount of fertilizer. Discover how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for			

				patterns in the structure of fruits that relate to how the seeds are dispersed.			
Animals, including humans	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Use the local environment to explore and answer questions about animals in their habitat Become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets. Learn the names of common body parts. Group animals according to what they eat.	Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Understand the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. Begin to understand processes of reproduction and growth in animals.	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. Understand importance of nutrition the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions. Identify and group animals with and without skeletons and observe and compare their movement. Compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. Research different food groups and how they keep us healthy and design meals based on what they find out.	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey. Begin to know the main body parts associated with the digestive system, for example, mouth, tongue, teeth, esophagus, stomach and small and large intestine and their special functions. Compare the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. Draw and discuss their ideas about the digestive system and compare them with models or images	Describe the changes as humans develop to old age. Draw a timeline to indicate stages in the growth and development of humans. Understand the changes experienced in puberty. Research the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans. Understand how the circulatory system enables the body to function. Understand how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body.

Everyday materials **Properties and changes to materials**	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)	Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties. Explore, name, discuss, raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. identify and discuss the uses of different everyday materials Understand that materials can be used for more than one thing. Which properties of materials that make them suitable or unsuitable for particular purposes?			Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. Explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Explore changes that are difficult to reverse, for	

						example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.	
Seasonal changes	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies Make tables and charts about the weather. Make displays of what happens in the world around them, including day length, as the seasons change.					
Living things (and their habitats)	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)		Explore and compare the differences between things that are living, dead, and things that have never been alive Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other Identify and name a variety of plants and animals in their habitats, including microhabitats. 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. Raise and answer questions about the life		Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things. Identify how the habitat changes throughout the year. Explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants. Begin to put vertebrate animals into groups such as fish, amphibians,	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment.	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics. Classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). Discuss reasons why living things are placed in one group and not another.

			processes that are common to all living things Raise and answer questions about the local environment to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other. Compare animals in familiar habitats with animals found in less familiar habitats. Sort and classify things according to whether they are living, dead or were never alive, and record the findings using charts. Construct a simple food chain that includes humans. Describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.		reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects		
Rocks.	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)			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. Research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Explore different soils and identify similarities and differences between them. Investigate what happens when rocks are rubbed together or what changes occur when they are in water.			
Light	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)			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. Explore what happens when light reflects off a			Recognise that light appears to travel in straight lines. 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. 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. Explore the way that light behaves, including light sources, reflection and shadows.

				mirror or other reflective surfaces. Understand why it is important to protect their eyes from bright lights.			Talk about what happens and make predictions.
Forces and magnets	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)			Compare how things move on different surfaces. Notice that some forces need contact between two 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 two poles.		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Explore falling objects and raise questions about the effects of air resistance. Explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. Experience forces that make things begin to move, get faster or slow down. Explore the effects of friction on movement and find out how it slows or stops moving objects	

States of matter	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)				Compare and group materials together, according to whether they are solids, liquids or gases. 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. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Observe water as a solid, a liquid and a gas and should note the changes to water when it is heated or cooled.		
Sound	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)				Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance		

					from the sound source increases.		
Electricity	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)				Identify common appliances that run on electricity. construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 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 a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors. Construct simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices. Draw a circuit as a pictorial representation. Understand precautions for working safely with electricity.		Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. 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. Use recognised symbols when representing a simple circuit in a diagram. Construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. Represent a simple circuit in a diagram using recognised symbols.
Earth and space	EYFS-Skills-and-Progression-Map-2023-					Describe the movement of the Earth, and other	

	006.pdf (moorside-academy.co.uk)					planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. Understand that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). # Understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).	

Evolution and inheritance	EYFS-Skills-and-Progression-Map-2023-006.pdf (moorside-academy.co.uk)						Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Find out more about how living things on earth have changed over time. observing and raising questions about local animals and how they are adapted to their environment.