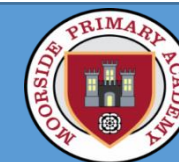




Skills progression - Science



	Plants	Animals, including humans		Everyday materials (classifying and grouping)		Seasonal changes
Year 1	<ul style="list-style-type: none">Name the petals, stem, leaf, bulb, flower, seed, stem and root of a plantIdentify and name a range of common plants and treesRecognise deciduous and evergreen treesName the trunk, branches and root of a treeDescribe the parts of a plant (roots, stem, leaves, flowers)Name the main parts of a flowering plant	<ul style="list-style-type: none">Point out some of the differences between different animals sort photographs of living things and non-living thingsIdentify and name a variety of common animals (birds, fish, amphibians, reptiles, mammals, invertebrates)Describe how an animal is suited to its environmentIdentify and name a variety of common animals that are carnivores, herbivores and omnivoresName the parts of the human body that they can seeDraw & label basic parts of the human bodyIdentify the main parts of the human body and link them to their sensesName the parts of an animal's bodyName a range of domestic animalsClassify animals by what they eat (carnivore, herbivore, omnivore)Compare the bodies of different animalsBegin to classify animals according to a number of given criteriaPoint out differences between living and non- living thingsName some parts of the human body that cannot be seenSay why certain animals have certain characteristicsName a range of wild animals		<ul style="list-style-type: none">Distinguish between an object and the material from which it is madeDescribe materials using their sensesDescribe materials using their senses, using specific scientific wordsExplain what material objects are made fromExplain why a material might be useful for a specific jobName some different everyday materialsSort materials into groups by a given criteriaExplain how solid shapes can be changed by squashing, bending, twisting and stretchingDescribe things that are similar and different between materialsExplain what happens to certain materials when they are cooled		<ul style="list-style-type: none">Observe changes across the four seasonsName the four seasons in orderObserve and describe weather associated with the seasonsObserve and describe how day length variesObserve features in the environment and explain that these are related to a specific seasonObserve and talk about changes in the weatherTalk about weather variation in different parts of the world
			Living things and their habitats	Classifying and grouping materials	Changing materials	
Year 2	<ul style="list-style-type: none">Describe what plants need to surviveObserve and describe how seeds and bulbs grow into mature plantsFind out & describe how plants need water, light and a suitable temperature to grow and stay healthyDescribe what plants need to survive and link it to where they are foundExplain that plants grow and reproduce in different ways	<ul style="list-style-type: none">Describe what animals need to surviveExplain that animals grow and reproduceExplain why animals have offspring which grow into adultsDescribe the life cycle of some living thingsExplain the basic needs of animals, including humans for survivalDescribe why exercise, balanced diet and hygiene are important for humansExplain that animals reproduce in different ways	<ul style="list-style-type: none">Match certain living things to the habitats they are found inExplain the differences between living and non-living thingsDescribe some of the life processes common to plants and animals, including humansDecide whether something is living, dead or non-livingDescribe how a habitat provides for the basic needs of things living thereDescribe a range of different habitatsDescribe how plants and animals are suited to their habitatName some characteristics of an animal that help it to live in a particular habitatDescribe what animals need to survive and link this to their habitat	<ul style="list-style-type: none">Describe the simple physical properties of a variety of everyday materialsCompare and group together a variety of materials based on their simple physical propertiesDescribe the properties of different materials, suing transparent or opaqueSort materials into groups and say why they have sorted them in that waySay which materials are natural and which are man made	<ul style="list-style-type: none">Explore how the shapes of solid objects can be changed (squashing, bending, twisting, stretching)Find out about people who developed useful new materialsIdentify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, cardboard for particular usesExplain how things move on different surfacesExplain how materials are changed by heating and coolingExplain how materials are changed by twisting, bending and stretchingTell which materials cannot be changed back after being heated, cooled, bent, stretched or twisted	

			Rocks	Forces and magnets	Light	
Year 3	<ul style="list-style-type: none"> Identify and describe the functions of different parts of flowering plants? (roots, stem/trunk, leaves and flowers) Explore the requirement of plants for life and growth (air, light, water, nutrients from soil, and room to grow) Explain 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 Classify a range of common plants according to many criteria 	<ul style="list-style-type: none"> Explain the importance of a nutritionally balanced diet Describe how nutrients, water and oxygen are transported within animals and humans Identify that animals, including humans, cannot make their own food: they get nutrition from what they eat Describe and explain the skeletal system of a human Describe and explain the muscular system of a human Explain how the muscular and skeletal systems work together to create movement Classify living and non-living things by a number of characteristics that they have thought of Explain how people, weather and the environment can affect living things Explain how certain living things depend on one another to survive 	<ul style="list-style-type: none"> Compare and group together different rocks on the basis of their appearance and simple physical properties Describe and explain how different rocks can be useful to us Describe and explain the differences between sedimentary and igneous rocks, considering the way they are formed 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 Classify igneous and sedimentary rocks Begin to relate the properties of rocks with their uses 	<ul style="list-style-type: none"> Compare how things move on different surfaces Observe that magnetic forces can be transmitted without direct contact Observe how some magnets attract or repel each other Classify which materials are attracted to magnets and which are not Notice that some forces need contact between two objects, but magnetic forces can act at a distance Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet Identify some magnetic materials Describe magnets have having two poles (N & S) Predict whether two magnets will attract or repel each other depending on which poles are facing Investigate the strengths of different magnets and find fair ways to compare them 	<ul style="list-style-type: none"> Recognise that they need light in order to see things Recognise 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 a solid object Find patterns in the way that the size of shadows change Explain why lights need to be brighter or dimmer according to need Explain the difference between transparent, translucent and opaque Explain why lights need to be bright or dimmer according to need Make a bulb go on and off Say what happens to the electricity when more batteries are added Explain why their shadow changes when the light source is moved closer or further from the object 	
Year 4		Animals including humans	Living things and their habitats	States of matter	Sound	Electricity
		<ul style="list-style-type: none"> Identify and name the basic parts of the digestive system in humans Describe the simple functions of the basic parts of the digestive system in humans Identify the simple function of different types of teeth in humans Compare the teeth of herbivores and carnivores explain what a simple food chain shows Construct and interpret a variety of food chains, identifying producers, predators and prey Classify living and non-living things by a number of characteristics that they have thought of 	<ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways Explore and use a classification key to group, identify and name a variety of living things (plants, vertebrates, invertebrates) Compare the classification of common plants and animals to living things found in other places Recognise that environments can change and this can sometimes pose a danger to living things Give reasons for how they have classified animals and plants, using their characteristics and how they are suited to their environment Explore the work of pioneers in classification 	<ul style="list-style-type: none"> Compare and group materials together, according to whether they are solids, liquids or gases Explain what happens to materials when they are heated or cooled Measure or research the temperature at which different materials change state in degrees Celsius Use measurements to explain changes to the state of water Identify the part that evaporation and condensation has in the water cycle Associate the rate of evaporation with temperature Group and classify a variety of materials according to the impact of temperature on them Explain what happens over time to materials such as puddles on the playground or 	<ul style="list-style-type: none"> Describe a range of sounds and explain how they are made Associate some sounds with something vibrating Compare sources of sound and explain how the sounds differ Explain how to change a sound (louder/softer) Recognise how vibrations from sound travel through a medium to an ear Find patterns between the pitch of a sound and features of the object that produce it Find patterns between the volume of the sound and the strength of the vibrations that produced it Recognise that sounds get fainter as the distance from the sound source increases 	<ul style="list-style-type: none"> Identify common appliances that run on electricity Construct a simple series electric circuit Identify and name the basic part in a series circuit, 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 Associate a switch opening with whether or not lamp lights in a simple series circuit Recognise some common conductors and insulators Associate metals with being good conductors Explain how a bulb might get lighter

		<ul style="list-style-type: none"> Explain how people, weather and the environment can affect living things Explain how certain living things depend on one another to survive 	<ul style="list-style-type: none"> Name and group a variety of living things based on feeding patterns 	<p>washing hanging on a line</p> <ul style="list-style-type: none"> Relate temperature to change of state of materials 	<ul style="list-style-type: none"> Explain how you could change the pitch of a sound Investigate how different materials can affect the pitch and volume of sounds Explain why sound gets fainter or louder according to distance Explain how pitch and volume can be changed in a variety of ways Work out which materials give the best insulation for sound 	<ul style="list-style-type: none"> Recognise if all metals are conductors of electricity Work out which metals can be used to connect across a gap in a circuit Explain why cautions are necessary for working safely with electricity
Year 5		Animals including humans	Living things and their habitats	Properties and changes to materials	Earth and space	Forces
		<ul style="list-style-type: none"> Describe the changes as humans develop to old age Create a timeline to indicate stages of growth in certain animals Describe the changes experienced in puberty Draw a timeline to indicate stages in the growth and development of humans 	<ul style="list-style-type: none"> Describe the differences in the life cycles of mammals, amphibians, insects and birds Describe the life cycles of common plants Explore the work of well know naturalists and animal behaviourists Observe the local environment and draw conclusions about life cycles Compare the life cycles of plants and animals in their local environment with the life cycles of those around the world 	<ul style="list-style-type: none"> Compare and group together everyday materials on the basis of their properties, including hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets Explain how some materials dissolve in liquid to form a solution Describe how to recover a substance from a solution Use their knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving, evaporating Give reasons, based on evidence for comparative and fair tests for the particular uses of everyday materials, including metals wood and plastic Describe changes using scientific words (evaporation, condensation) 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 Use the terms ‘reversible’ and ‘irreversible’ Describe methods for separating mixtures Work out which materials are most effective for keeping us warm of something cold Use their knowledge of materials to suggest ways to classify Explore changes that are difficult to reverse Explore the work of chemists who created new materials 	<ul style="list-style-type: none"> Identify and explain the movement of the Earth and other planets relative to the sun in the solar system Explain how seasons and the associated weather is created Describe and explain 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 Compare the time of day at different places on earth Create shadow clocks Begin to understand how older civilizations used the sun to create astronomical clocks Explore the work of some scientists 	<ul style="list-style-type: none"> 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 Describe and explain how motion is affected by forces Design very effective parachutes Work out how water can cause resistance to floating objects Explore how scientists helped to develop the theory of gravitation

Year 6	Evolution and inheritance	Animals including humans	Living things and their habitats		Light	Electricity
	<ul style="list-style-type: none"> 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 Give reasons why offspring are not identical to each other or to their parents Explain the process of evolution and describe the evidence for this Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution Talk about the work of Charles Darwin, Mary Anning and Alfred Wallace Explain ow some living things adapt to survive in extreme conditions Analyse the advantages and disadvantages of specific adaptations Begin to understand what is meant by DNA 	<ul style="list-style-type: none"> 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 and transported within animals, including humans Explain why classification is important Readily group animals into reptiles, amphibians, birds and mammals Sub divide their original groupings and explain their divisions Group animals into vertebrates and invertebrates Find out about the significance of the work of scientist 	<ul style="list-style-type: none"> 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 Explore the work of medical pioneers and recognise how much we have learnt about our bodies Compare the organ systems of humans to other animals Make a diagram of the human body and explain how different parts work and depend on one another Name the major organs of the human body Locate the major human organs Make a diagram that outlines the main parts of a body 		<ul style="list-style-type: none"> 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 object s 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 Explain how different colours of light can be created Use and explain how simple optical instruments work Explore a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters 	<ul style="list-style-type: none"> Identify and name the basic parts of a simple electric series circuit (cells, wires, bulbs, switches, buzzers) Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers, the on/off position of switches Use recognised symbols when representing a simple circuit in a diagram Make their own traffic light system or something similar Explain the danger of short circuits Explain what a fuse is Explain how to make changes in a circuit Explain the impact of changes in a circuit Explain the effect of changing the voltage of a battery