

Skills	By the end of Hachana (Reception [EYFS])
<p><i>Understanding the World</i></p> <p>Skills:</p> <ul style="list-style-type: none"> -To draw animals which live in water and animals which live on land -To draw plants and begin to make links with the seasons -To talk about the lives of people working in scientific fields, and their roles in society -To discuss weather temperature associated with each season 	<ul style="list-style-type: none"> -To explore the natural world around them, making observations and drawing pictures of animals and plants -To understand some important processes and changes in the natural world around them, including the seasons and changing states of matter
<p>Vocabulary:</p> <p>People who help us (scientist, doctor, nurse), hospital, x ray, bones, skeleton, ambulance, vet, zoo keeper, flowers, trees, bush, leaves, grass, names of different animals and basic characteristics</p> <p>Words related to weather and seasons – hot, cold, puddle, dry, wet</p>	<p>N/A</p>

Area of Study	By the end of Year 1	By the end of Year 2
Plants	<p>Skills:</p> <ul style="list-style-type: none"> -To identify and name a variety of common plants including deciduous and evergreen trees. -To identify and describe the basic structure of common plants and trees. <p>Vocabulary:</p> <p>root, leaf, leaves, flower, petals, blossom, bud, seed, stem, trunk, branches, deciduous, evergreen, wild, garden</p>	<p>Skills:</p> <ul style="list-style-type: none"> -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. <p>Vocabulary:</p> <p>Recap vocabulary from year 1 Bulb, nutrients, soil, water, light, sun, temperature, warm, cold, seed, germination, seedling, mature plant (exact vocabulary may change depending on the plant lifecycle being taught)</p>
Plants <i>Opportunities for working scientifically</i>	<p>Observe growth of flower and vegetables they have planted. Observe using magnifying glasses, observing how they have changed over time and leaves falling off trees, buds opening. Ch to keep a record. Ask questions, note observations. How can they identify groups of plants, draw the simple parts of a plant.</p>	<p>Use the local environment throughout the year to see how different plants grow. Requirements of plants for germination, growth and survival, reproduction. Seeds and bulbs need water, most do not need light. Ask questions, note observations. Observe at different stages of growth, how they change or set a comparative test to show plants need light and water to stay healthy. How will we make it a fair test?</p>
Seasonal Changes	<p>Skills:</p> <ul style="list-style-type: none"> -observe changes across the 4 seasons -observe and describe weather associated with the seasons and how day length varies <p>Vocabulary: season, spring, summer, autumn, winter, month, year, day, night, sun, moon, light, dark</p>	N/A
Seasonal Changes <i>Opportunities for working scientifically</i>	<p>Observe and talk about changes in the weather and the seasons. Make tables and charts about the weather to show conclusions. Make displays of what happens in the world around them, including day length, as the seasons change</p>	N/A
Animals Including Humans	<p>Skills:</p> <ul style="list-style-type: none"> -Identify and name a variety of common animals inc 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, inc pets) -Identify, name, draw and label basic parts of human body and associate with each sense <p>Vocabulary: amphibians, fish, reptiles, mammals, birds (+ 1 example of each) herbivore, omnivore, carnivore head, nose, ear, neck, shoulder, arm, elbow, wrist, hand, back, chest, hip, leg, knee, ankle, foot wing, beak, tail, fin sight, smell</p>	<p>Skills:</p> <ul style="list-style-type: none"> -Notice that animals, inc humans, have offspring which grow into adults -find out about and describe the basic needs of animals, inc 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. <p>Vocabulary: survival, water, air, food reproduce, adult, baby, offspring, kitten, calf, puppy food chain, prey, predator, camouflage, protection exercise, hygiene, balanced diet</p>

<p><i>Animals Including Humans</i> <i>Opportunities for working scientifically</i></p>	<p>Explore and answer questions about animals in their local habitat, take care of them and return them safely after study. Learn some of the common names for a variety of animals. Name human body parts through song and rhyme Use observations to compare and contrast animals first hand or through video and photos, identifying and grouping them. Use senses to compare texture, sound and smell and note conclusions</p>	<p>Basic needs for survival, importance of exercise and nutrition. Growth in animals and they can reproduce. Observe through video or firsthand observation, measurement, how different animals inc humans grow. What they need for survival and to stay healthy. Suggest ways to find answers to their questions</p>
<p><i>Year 1: Everyday Materials</i> <i>Year 2: Uses of Every Day Materials</i></p>	<p>Skills: -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</p> <p>Vocabulary: Hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof, absorbent, not absorbent, opaque, transparent</p>	<p>Skills: -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 (metal can be used for coins, cans, cars and table legs; wood Can be used for matches, floors, and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass). Find out about people who have developed useful new materials, for example, John Dunlop, Charles Macintosh or John McAdam.</p> <p>Vocabulary: squashing, bending, twisting and stretching</p>
<p><i>Everyday Materials</i> <i>Opportunities for working scientifically</i></p>	<p>Simple tests to explore questions, for example: 'What is the best material for an umbrella?...for lining a dog basket?...for curtains?...for a bookshelf?...for a gymnast's leotard?'</p>	<p>Compare the uses and suitability of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); observing closely, identifying and classifying the uses of different materials, how they can change shape and recording their observations.</p>
<p><i>Living things and Their Habitats</i></p>	<p>N/A</p>	<p>Skills: -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</p> <p>Vocabulary: living, dead, habitat, microhabitat, woodland, meadow, hedgerow, pond</p>
<p><i>Living things and Their Habitats</i> <i>Opportunities for working scientifically</i></p>	<p>N/A</p>	<p>Sort and classify things according to whether they are living, dead or were never alive, and record their findings using charts. Describe how they decided where to place things, exploring questions like: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions. Construct a simple food chain that includes humans (ie grass, cow, human). Note observations. Describe the conditions in different habitats and microhabitats (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.</p>

Area of Study	By the end of Year 3	By the end of Year 4
Plants	<p>Skills:</p> <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 requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary from plant to plant -Investigate the way in which water is transported in plants -Explore the part that flowers play in the lifecycle of flowering plants, including, pollination, seed formation and seed dispersal <p>Vocabulary:</p> <p>roots, stem, trunk, leaves, flowers, air, light, water, nutrients, soil, space, grow, absorb, store, secure, support, transport, produce food (don't need to understand how), attract insects</p>	N/A
Plants Opportunities for working scientifically	Compare different factors of plant growth, e.g. the amount of light, fertiliser; discover how seeds are formed by observing the different stages of plant life cycles over a period of time, how seeds are dispersed. Observe how water in plants is transported using white carnations and dyed water in vase. Ask questions, make observations and draw conclusions	N/A
Animals Including Humans	<p>Skills:</p> <ul style="list-style-type: none"> -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 <p>Vocabulary: skeleton, skull, bones, muscles, movement, support, protection, nutrition</p>	<p>Skills:</p> <ul style="list-style-type: none"> -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 <p>Vocabulary: mouth, tongue, teeth, oesophagus, stomach, small intestine, large intestine, nutrients, absorb, canine, incisor, molar producer, consumer, apex predator</p>
Animals Including Humans Opportunities for working scientifically	Identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. Compare and contrast the diets of different animals (inc 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. Ask questions and note findings.	<p>Main body parts associated with the digestive system, for example: mouth, tongue, teeth, oesophagus, stomach, and small and large intestine, and explore questions that help them to understand their special functions.</p> <p>Compare teeth of carnivores and herbivores and suggest reasons for differences; finding out what damages teeth and how to look after them. Draw and discuss ideas about the digestive system and compare them with models or images.</p>
Rocks	<p>Skills:</p> <ul style="list-style-type: none"> -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 <p>Vocabulary: soils, organic matter, fossil, crystal, sandstone, granite, marble, pumice absorbent, crumble sedimentary, layer, sediment igneous, magma, lava, gas bubbles (tiny holes/spaces) metamorphic, change, squeeze, pressure</p>	N/A
Rocks Opportunities for working scientifically	Explore different kinds of rocks and soils, including those in the local environment. Observe rocks, including those used in buildings and gravestones, and explore how and why they might have changed over time; use a hand lens or microscope to identify and classify rocks according to whether they have grains or crystals and whether they have fossils in them.	N/A

	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 and investigate what happens when rocks are rubbed together or what changes occur when they are in water. Raise and answer questions about the way soils are formed. Make observations and report back.	
States of Matter	N/A	<p>Skills:</p> <ul style="list-style-type: none"> -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 (°C) -identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature <p>Vocabulary: solid, liquid, gas, evaporation, condensation, particle, temperature, freezing, heating</p>
States of Matter Opportunities for working scientifically	N/A	Group and classify different materials: exploring the effect of temperature on substances such as chocolate, butter, cream (for example, to make food such as chocolate crispy cakes and ice-cream for a party). Research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into liquid. Show in a table adding data. Observe and record evaporation over a period of time, for example, a puddle in the playground and investigate the effect of temperature on washing drying or snowmen melting.
Light	<p>Skills:</p> <ul style="list-style-type: none"> -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 <p>Vocabulary: light source, mirror, reflect, reflective, reflection shadow, blocked transparent, translucent, opaque</p>	N/A
Light Opportunities for working scientifically	Explore what happens when light reflects off a mirror or other reflective surfaces, inc playing mirror games to answer questions about how light behaves. Why it is important to protect their eyes from bright lights? Ask questions and make observations. Look for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.	N/A
Sound	N/A	<p>Skills:</p> <ul style="list-style-type: none"> -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 <p>Vocabulary: vibration wave, volume, pitch, tone, insulation</p>
Sound Opportunities for working scientifically	N/A	<p>Explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed in a variety of ways.</p> <p>Find patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. Make earmuffs from a variety of different materials to investigate which provides the best</p>

		insulation against sound. Make and play their own instruments by using what they have found out about pitch and volume. Record observations, make a fair test and show conclusions.
Forces and Magnets	<p>Skills:</p> <ul style="list-style-type: none"> -compare how things move on different surfaces -notice that some forces need contact between 2 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 2 poles -predict whether 2 magnets will attract or repel each other, depending on which poles are facing <p>Vocabulary: force, contact, surface, magnetic, attract, repel, poles</p>	N/A
Forces and Magnets <i>Opportunities for working scientifically</i>	Compare how different things move and group them; raising questions, carrying out tests to find out how far things move on different surfaces, gathering and recording data to find answers to their questions; exploring the strengths of different magnets and finding a fair way to compare them; sorting materials into those that are magnetic and those that are not; looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another; identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.	N/A
Electricity	N/A	<p>Skills:</p> <ul style="list-style-type: none"> -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 <p>Vocabulary: appliance, battery power, main power, circuit, series, cell, battery, wire, bulb, switch, break in circuit, conductor, insulator</p>
Electricity <i>Opportunities for working scientifically</i>	N/A	<p>Construct simple series circuits, trying different components, eg, bulbs, buzzers and motors and including switches; using their circuits to create simple devices. Draw the circuit as a pictorial representation, not necessarily using conventional circuit symbols at this stage; (these will be introduced in Year 6 and current and voltage). Pupils should be taught about precautions for working safely with electricity.</p> <p>Observe patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit. Note the conclusion.</p>

Area of Study	By the end of Year 5	By the end of Year 6
<p><i>Plants/Living Things and Their Habitats</i></p>	<p>Skills:</p> <ul style="list-style-type: none"> -Describe the life process of reproduction in some plants -Observe life-cycle changes in a variety of living things, e.g. plants in a vegetable garden or flower border -Sexual and asexual reproduction in plants <p>-Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>-Describe the life process of reproduction in some plants and animals</p> <p>Vocabulary:</p> <p>Mammal, amphibian, insect, bird, pollination, reproduction, off spring, organism, pollen, living, fertilisation, gametes, living, petal, pollen, stamen (anther, filament), sepal, stem, ovule, carpel (or pistil), stigma, style, ovary, nectaries, nectar, sexual, asexual, warm blooded, live, cold blooded, fur, hair, milk, develop, hatch, egg, gills, fins, lungs, legs, metamorphosis, complete, incomplete, larva, pupa, adult, nymph</p>	<p>Skills:</p> <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 micro-organisms, plants and animals -Give reasons for classifying plants and animals based on specific characteristics <p>Vocabulary:</p> <p>Invertebrates, vertebrates, animals, plants, fungi, protists, prokaryotes, Carl Linnaeus, characteristics</p>
<p><i>Plants (Part of Living Things and their Habitats)</i> <i>Opportunities for working scientifically</i></p>	<p>Observe and compare life cycles of plants with other plants around the world (rainforest, ocean, desert areas and in prehistoric times), similarities and differences. Grow new plants from different parts of the parent plant, e.g. Seeds, stem and root cuttings, tubers, bulbs.</p> <p>How plants reproduce sexually and asexually.</p>	<p>Look at the classification system (Yr 4) in more detail. Introduce the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided. Through direct observations where possible, 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. Find out about the work of scientists such as Carl Linnaeus, a pioneer of classification.</p> <p>Use classification system to identify some plants in the immediate environment. Research unfamiliar plants from a broad range of habitats and decide where they belong in the classification system.</p>
<p><i>Animals Including Humans</i></p>	<p>-describe the changes as humans develop to old age</p> <p>Vocabulary: womb, foetus, embryo, gestation, baby, toddler, teenager, elderly growth, development, puberty</p>	<p>-identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>-recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>-describe the ways in which nutrients and water are transported within animals, including humans</p> <p>Vocabulary: function, circulatory system, heart, valve, blood vessel, vein, artery transport, oxygenated, deoxygenated lifestyle, drug</p>
<p><i>Animals Including Humans</i> <i>Opportunities for working scientifically</i></p>	<p>Draw a timeline to indicate stages in the growth and development of humans. Changes experienced in puberty. Research gestation periods of other animals and comparing them with humans; by finding out and recording data - the length and mass of a baby as it grows.</p>	<p>Explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.</p>
<p><i>Properties and Changes of Materials</i></p>	<p>Skills: -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</p> <p>-know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>-use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>-give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p>	<p>N/A</p>

	<p>-demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>-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</p> <p>Find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle free cotton.</p> <p>Vocabulary: hardness, transparency, conductivity (electrical, thermal) solubility, solution dissolve, filter, evaporate, sieve, reversible, irreversible</p>	
<p>Properties and Changes of Materials</p> <p>Opportunities for working scientifically</p>	<p>Carry out tests to answer questions, for example, ‘Which materials would be most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?’ Could compare materials in order to make a switch in a circuit. Could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. Could research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss new materials such as polymers, super-sticky and super-thin materials. Make observations, consider how to make a fair test, note conclusions</p>	N/A
<p>Evolution and Inheritance</p>	N/A	<p>Skills:</p> <p>-recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>-recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>-identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p> <p>Vocabulary: adaptation, evolution, characteristic, reproduction, genetics, survival</p>
<p>Evolution and Inheritance</p> <p>Opportunities for working scientifically</p>	N/A	<p>(Building on what they learned about fossils in the topic on Rocks in Year 3, pupils should find out more about how living things on earth changed over time). Characteristics are passed from parents to their offspring, e.g. by considering different breeds of dogs, and what happens when, for example, Labradors are crossed with poodles. Variation in offspring over time can make animals more or less able to survive in particular environments, for example, by exploring how giraffes’ necks got longer, or the development of insulating fur on the arctic fox. Find out how Charles Darwin and Alfred Wallace developed their ideas on evolution.</p> <p>(Note: at this stage, pupils are not expected to understand how genes and chromosomes work).</p> <p>Observe and raise questions about local animals and how they are adapted to their environment; comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels. Analyse the advantages and disadvantages of specific adaptations, such as being on 2 feet rather than 4, having a long or short beak, having gills or lungs, tendrils on climbing plants, brightly coloured or scented flowers.</p>
<p>Earth and Space</p>	<p>-describe the movement of the Earth and other planets relative to the sun in the solar system</p> <p>-describe the movement of the moon relative to the Earth</p> <p>-describe the sun, Earth and moon as approximately spherical bodies</p>	N/A

	<p>-use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p> <p>Vocabulary: Earth, sun, moon, solar system, axis of rotation, day, night, phases of the moon, star, constellation</p>	
<p>Earth and Space Opportunities for working scientifically</p>	<p>Learn that the sun is a star at the centre of our solar system and that it has 8 planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn Uranus and Neptune (Pluto was classified as a 'dwarf planet' in 2006. Moon is a celestial body that orbits a planet (Earth has 1 moon, Jupiter has 4 large moons and numerous smaller ones). Note: Pupils should be warned that it is not safe to look directly at the sun, even when wearing dark glasses.</p> <p>How have ideas about the solar system developed, understand how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.</p> <p>Compare the time of day at different places on the Earth through Internet links and direct communication; create simple models of the solar system; construct simple shadow clocks and sundials, calibrated to show midday and the start of and of the school day; find out why some people think that structures such as Stonehenge have been used as astronomical clocks.</p>	N/A
<p>Light</p>	N/A	<p>Skills:</p> <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 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 <p>Build on the work on light in Year 3, exploring the way that light behaves, including light sources, reflection and shadows. Talk about what happens and make predictions.</p> <p>Vocabulary: refraction, reflection, spectrum, rainbow</p>
<p>Light Opportunities for working scientifically</p>	N/A	<p>Decide where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works. Extend their experience of light by looking at a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water, and coloured filters (they do not need to explain why these phenomena occur).</p>
<p>Forces</p>	<ul style="list-style-type: none"> -describe the movement of the Earth and other 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 	N/A

	Vocabulary: Earth, sun, moon, solar system, axis of rotation, day, night, phases of the moon, star, constellation	
Forces Opportunities for working scientifically	<p>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. Effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Explore the effects of levers, pulleys and simple machines on movement. Research scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.</p> <p>Explore falling paper cones or cupcake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. How will it be a fair test? Explore resistance in water by making and testing boats of different shapes. Perhaps design and make products that use levers, pulleys, gears and/or springs and explore their effects. Note findings and conclusion.</p>	N/A
Electricity	N/A	<p>Skills:</p> <ul style="list-style-type: none"> -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 <p>Vocabulary: circuit - series, parallel voltage, volts, amps</p>
Electricity Opportunities for working scientifically	N/A	<p>(Build on work in Year 4, construct simple series circuits) to help answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. Learn how to represent a simple circuit in a diagram using recognised symbols.</p> <p>Note: pupils are expected to learn only about series circuits, not parallel circuits. Take the necessary precautions for working safely with electricity.</p> <p>Systematically identify the effect of changing one component at a time in a circuit; make observations and ask questions, reach conclusions. Design and make a set of traffic lights, a burglar alarm or some other useful circuit.</p>