

Essential Knowledge

Subject: Science

Thread: Animals Including Humans

Nursery	Understand the key features of the life cycle of a plant and an animal.	
Year R Core Knowledge	Explore the natural world around them. Describe what they see, hear and feel whilst outside.	
EYFS Goal		
UW: • Explore the natural world around them, making observations and drawing pictures of animals and plants;		
Year 1 Core Knowledge	<p>I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>I can identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	Ourselfs and our pets.
Year 2 Core Knowledge	<p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>	Growth and Survival
Key Stage One End point		
Pupils should use the local environment and answer questions in their habitat and know how to care for animals from this. Pupils should be able to name animals (fish, amphibians, reptiles, birds and mammals) and learn the basic needs of animals for survival. Pupils should be able to learn the names of the main body parts and why exercise is important. Pupils should know the basics of reproduction and growth in animals.		
Year 3 Core Knowledge	<p>I can 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.</p> <p>I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	
Year 4 Core Knowledge	<p>I can describe the simple functions of the basic parts of the digestive system in humans</p> <p>I can identify the different types of teeth in humans and their simple functions</p> <p>I can construct and interpret a variety of food chains, identifying producers, predators and prey</p>	Teeth and Digestion
Year 5 Core Knowledge	I can describe the changes as humans develop to old age	Life Cycles

<p>Year 6 Core Knowledge</p>	<p>I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>I can describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>The circulatory system</p>
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Key Stage Two End point
Pupils will learn the main body parties associated with skeleton, the digestive system, and internal organs and their special functions. Pupils will explore and answer questions that help understand the circulatory system. Pupils will learn how to keep their bodies healthy, focusing on nutrition, building on to including drugs and harmful substances.

Essential Knowledge

Subject: Science

Thread: Living Things and Habitats

Nursery	Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things.	
Year R Core Knowledge	Describe what they see, hear and feel whilst outside. Explore the natural world around them.	
EYFS Goal UW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.		
Year 1 Core Knowledge		
Year 2 Core Knowledge	<p>I can explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>I can 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</p> <p>I can identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</p>	Living things and their habitats (habitats and environments)
Key Stage One End point Pupils should that all living things have certain characteristics which keep them alive. Pupils will learn the term 'habitat' and 'micro-habitat'. Pupils will study a variety of plants and habitats and observe how living things depend on each other. Pupils will compare animals in familiar habitats with animals found in less familiar habitats.		
Year 3 Core Knowledge		
Year 4 Core Knowledge	<p>I can recognise that living things can be grouped in a variety of ways</p> <p>I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>I can recognise that environments can change and that this can sometimes pose dangers to living things</p> <p>I can construct and interpret a variety of food chains, identifying producers, predators and prey</p>	
Year 5 Core Knowledge	<p>I can describe the difference in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>I can describe the life process of reproduction in some plants and animals</p> <p>I can observe life-cycle changes in a variety of living things for example plants in the vegetable garden</p> <p>I can find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.</p>	

<p>Year 6 Core Knowledge</p>	<p>I can 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</p> <p>I can give reasons for classifying plants and animals based on specific characteristics</p> <p>I can find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.</p>	
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Key Stage Two End point
Pupils will use their local environment to explore plants and animals that live there. They will observe a range of life-cycle changes within these and identify how a habitat changes through a year. Pupils should be able to classify living things in more detail, into broader groupings such as micro-organisms, invertebrates and vertebrates. Pupils will know different types of reproduction.

Essential Knowledge

Subject: Science		Thread: Materials
Nursery	<p>Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties Talk about what they see, using a wide vocabulary. Talk about the differences between materials and changes they notice.</p>	
Year R Core Knowledge	Explore the natural world around them.	
<p>EYFS Goal, UW: Explore the natural world around them, making observations and drawing pictures of animals and plants; Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>		
Year 1 Core Knowledge	<p>I can distinguish between an object and the material from which it is made I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock I can describe the simple physical properties of a variety of everyday materials I can compare and group together a variety of everyday materials on the basis of their simple physical properties</p>	Everyday materials (lets build and marvellous machines)
Year 2 Core Knowledge	<p>I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	Uses of everyday materials
<p>Key Stage One End point Pupils should explore, name, discuss and raise and answer questions about the uses of everyday materials. They should become familiar with the names of materials and properties such as: hard/soft and how they can be used for more than one thing (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors, and telegraph poles) or how different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass). They should think about the properties of materials, including brick, paper, fabric, elastics and foil. They should consider what makes them suitable or unsuitable for particular purposes and be encouraged to think about unusual and creative uses for everyday materials.</p>		
Year 3 Core Knowledge		
Year 4 Core Knowledge		
Year 5 Core Knowledge	<p>I can 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. I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p>	Properties and changes of materials

	<p>I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>I can demonstrate that dissolving, mixing and changes of states are reversible changes</p> <p>I can 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 soda.</p>	
<p>Year 6 Core Knowledge</p>		

Key Stage Two End point

Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3 and about electricity in year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should 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.

Essential Knowledge

Subject: Science

Thread: Plants

Nursery	Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things.	
Year R Core Knowledge	Explore the natural world around them. Describe what they see, hear and feel whilst outside. Recognise some environments that are different from the one in which they live.	
<p>EYFS Goal, UW:</p> <ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures of animals and plants; • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 		
Year 1 Core Knowledge	<p>I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>I can identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	What's growing in our gardens?
Year 2 Core Knowledge	<p>I can observe and describe how seeds and bulbs grow into mature plants</p> <p>I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	Growing plants
<p>Key Stage One End point</p> <p>Pupils should use the local environment throughout the year to explore, answer questions and observe how different plants grow. They should 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, stem). Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.</p>		
Year 3 Core Knowledge	<p>I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>I can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <p>I can investigate the way in which water is transported within plants</p> <p>I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	Investigating plants
Year 4 Core Knowledge		
Year 5 Core Knowledge		

Year 6 Core Knowledge		
Key Stage Two End point Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction.		

Essential Knowledge

Subject: Science

Thread: Evolution and inheritance

Nursery		
Year R Core Knowledge	Describe what they see, hear and feel whilst outside. Explore the natural world around them.	
EYFS Goal UW: Explore the natural world around them, making observations and drawing pictures of animals and plants;		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge		
Year 4 Core Knowledge		
Year 5 Core Knowledge		
Year 6 Core Knowledge	<p>I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	
Key Stage Two End point Pupils will build on their knowledge from Rocks in Year 3 and know how living things on earth have changed over time. Pupils should find out more about how living things on earth have changed over time. They should be introduced to the idea that characteristics are passed from parents to their offspring. They should also appreciate that variation in offspring over time can make animals more or less able to survive in particular environments. Pupils might find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.		

Essential Knowledge		
Subject: Science		Thread: Sound
Nursery	Use all their senses in hands-on exploration of natural materials.	
Year R Core Knowledge	Explore the natural world around them. Describe what they see, hear and feel whilst outside.	
EYFS Goal UW: Explore the natural world around them, making observations and drawing pictures of animals and plants;		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge		
Year 4 Core Knowledge	<p>I can identify how sounds are made, associating some of them with something vibrating</p> <p>I can recognise that vibrations from sounds travel through a medium to the ear</p> <p>I can find patterns between the pitch of a sound and features of the object that produced it</p> <p>I can find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>I can recognise that sounds get fainter as the distance from the sound source increases.</p>	Sound
Year 5 Core Knowledge		
Year 6 Core Knowledge		
Key Stage Two End point Pupils should 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.		

Essential Knowledge

Subject: Science		Thread: Forces
Nursery	Explore how things work. Explore and talk about different forces they can feel.	
Year R Core Knowledge	Describe what they see, hear and feel whilst outside. Explore the natural world around them.	
EYFS Goal, UW Explore the natural world around them, making observations and drawing pictures of animals and plants; Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge	<p>I can compare how things move on different surfaces</p> <p>I can notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</p> <p>I can observe how magnets attract or repel each other and attract some materials and not others</p> <p>I can compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>I can describe magnets as having 2 poles</p> <p>I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p>	Forces and magnets
Year 4 Core Knowledge		
Year 5 Core Knowledge	<p>I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	Forces
Year 6 Core Knowledge		
Key Stage Two End point Pupils should observe that magnetic forces can act without direct contact and should explore the behaviour and everyday uses of different magnets. Pupils will raise and explore questions about air resistance and the effects of air resistance by observing how different objects fall. Pupils will explore		

effects of friction on movement and find out how it slows or stops objects. Pupils will know the effects of levers, pulleys and simple machines on movement.

Essential Knowledge

Subject: Science

Thread: Rocks

Nursery

Talk about the differences between materials and changes they notice.

Year R Core Knowledge	Explore the natural world around them. Describe what they see, hear and feel whilst outside. Recognise some environments that are different from the one in which they live.	
EYFS Goal: UW Explore the natural world around them, making observations and drawing pictures of animals and plants; Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge	I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. I can describe in simple terms how fossils are formed when things that have lived are trapped within rock I can recognise that soils are made from rocks and organic matter	Rocks
Year 4 Core Knowledge		
Year 5 Core Knowledge		
Year 6 Core Knowledge		
Key Stage Two End point Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment. They should be able to explain how the different types of rocks are formed and recognise soils are made from rocks and organise matter.		

Essential Knowledge		
Subject: Science		Thread: Light
Nursery	Talk about what they see, using a wide vocabulary.	
Year R Core Knowledge	Describe what they see, hear and feel whilst outside. Explore the natural world around them	

	Understand the effect of changing seasons on the natural world around them.	
EYFS Goal UW: Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge	<p>I can recognise that they need light in order to see things and that dark is the absence of light</p> <p>I can notice that light is reflected from surfaces</p> <p>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>I can recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>I can find patterns in the way that the size of shadows change</p>	Light
Year 4 Core Knowledge		
Year 5 Core Knowledge		
Year 6 Core Knowledge	<p>I can recognise that light appears to travel in straight lines</p> <p>I can 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</p> <p>I can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</p> <p>I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>	Light
Key Stage Two End point		
Pupils should explore the way light behaves, including light sources, shadows and reflection. Pupils should explore how light is reflected off reflective surfaces such as a mirror. Pupils should explore, and measure, how shadows are formed and how they can be changed. Pupils should think about why it is important to protect their eyes from bright lights. They should talk about what happens and make predictions.		

Essential Knowledge		
Subject: Science		Thread: Electricity
Nursery		
Year R Core Knowledge		
EYFS Goal UW		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge		
Year 4 Core Knowledge	<p>I can identify common appliances that run on electricity</p> <p>I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>I can identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p>I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>I can recognise some common conductors and insulators, and associate metals with being good conductors.</p>	Electricity
Year 5 Core Knowledge		
Year 6 Core Knowledge	<p>I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>I can 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</p> <p>I can use recognised symbols when representing a simple circuit in a diagram.</p>	Electricity

Key Stage Two End point

Pupils should construct simple circuits to create simple devices and help them answer questions about what happens when they try different components. They should know how to draw the circuit using conventional circuit symbols.

Essential Knowledge		
Subject: Science		Thread: States of Matter
Nursery	Talk about the differences between materials and changes they notice	
Year R Core Knowledge	Explore the natural world around them. Describe what they see, hear and feel whilst outside.	
EYFS Goal UW: <ul style="list-style-type: none">• Explore the natural world around them, making observations and drawing pictures of animals and plants;• Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge		
Year 4 Core Knowledge	I can compare and group materials together, according to whether they are solids, liquids or gases	States of matter

	I can observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius. I can identify the part played by evaporation and condensation in the water cycle and associate the rather of evaporation with temperature.	
Year 5 Core Knowledge		
Year 6 Core Knowledge		
Key Stage Two End point Pupils should explore a variety of everyday materials and develop simple descriptions of the states of. Pupils should observe water as a solid, a liquid and a gas and should note the changes to water when it is heated or cooled. Pupils will know the part played by evaporation and condensation in the water cycle.		
Essential Knowledge		
Subject: Science		Thread: Earth and Space
Nursery		
Year R Core Knowledge	Describe what they see, hear and feel whilst outside. Recognise some environments that are different from the one in which they live.	
EYFS Goal, UW: <ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures of animals and plants; Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 		
Year 1 Core Knowledge		
Year 2 Core Knowledge		
Key Stage One End point		
Year 3 Core Knowledge		
Year 4 Core Knowledge		
Year 5 Core Knowledge	I can describe movement of the Earth, and other planets, relative to the Sun in the solar system. I can describe movement of the Moon relative to the Earth.	Earth and space

	<p>I can describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>I can use the idea of the Earth's rotation to explain day and night the apparent movement of sun across the sky.</p>	
<p>Year 6 Core Knowledge</p>		

Key Stage Two End point
Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets. They should understand that a moon is a celestial body that orbits a planet. They can explain the Earth's rotation to explain day and night.

Essential Knowledge

Subject: Science

Thread: Working Scientifically

Nursery	Use all their senses in hands-on exploration of natural materials. Talk about what they see, using a wide vocabulary. Explore how things work.	
Year R Core Knowledge	Explore the natural world around them Describe what they see, hear and feel whilst outside.	
<p>EYFS Goal, UW:</p> <ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures of animals and plants; • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 		
Year 1 Core Knowledge	I can ask simple questions and recognise they can be answered in different ways I can observe closely using simple equipment I can perform simple tests I can identify and classify I can use my observations and ideas to suggest answers to questions I can gather and record data to help in answering questions	
Year 2 Core Knowledge	I can ask simple questions and recognising that they can be answered in different ways I can observe closely, using simple equipment I can perform simple tests I can identify and classify I can use observations and ideas to suggest answers to questions I can gather and recording data to help in answering questions	
<p>Key Stage One End point</p> <p>Pupils in years 1 and 2 should explore the world around them and raise their own questions. They should experience different types of scientific enquiries. They should 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 patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should 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.</p>		
Year 3 Core Knowledge	I can ask relevant questions and using different types of scientific enquiries to answer them I can set up simple practical enquiries, comparative and fair tests I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers I can gather, recording, classifying and presenting data in a variety of ways to help in answering questions I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions I can identify differences, similarities or changes related to simple scientific ideas and processes	

	I can use straightforward scientific evidence to answer questions or to support findings	
Year 4 Core Knowledge	<p>I can ask relevant questions and using different types of scientific enquiries to answer them</p> <p>I can set up simple practical enquiries, comparative and fair tests</p> <p>I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>I can gather, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>I can identify differences, similarities or changes related to simple scientific ideas and processes</p> <p>I can use straightforward scientific evidence to answer questions or to support findings</p>	
Year 5 Core Knowledge	<p>I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>I can make measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>I can report and present 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</p> <p>I can identify scientific evidence that has been used to support or refute ideas or arguments</p>	
Year 6 Core Knowledge	<p>I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>I can make measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>I can report and present 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</p> <p>I can identify scientific evidence that has been used to support or refute ideas or arguments</p>	
Key Stage Two End point End of lower key stage 2 -		

Pupils should start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; 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. They should 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 and how. They should learn how to use equipment appropriately. They should collect data from their own observations and measurements 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. Pupils should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.

End of upper key stage 2 –

Pupils should use their science experiences to: explore ideas and raise different kinds of 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. They should 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. They should make their own decisions when completing scientific observations. They should 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. They should 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. They should 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