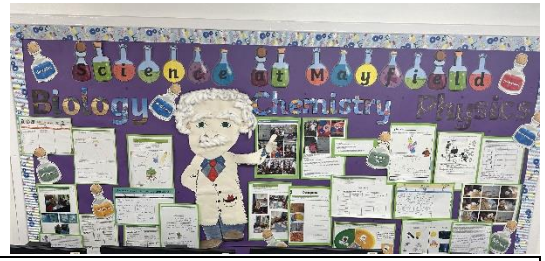
Context for Teaching Mayfield Primary School Science



Year One				
Term	**Area of Learning**	**Prior Learning**	**Current Learning**	**Future Learning**
1 & 4	Animals including Humans	Reception: children can name common animals and their babies. Children know that animals live in particular habitats and know some common features of mini beasts. Children are aware of the different parts of their body and have explored their senses.	Year 1: children will further develop their knowledge of animals and will be introduce to 'animal families' and how animals are grouped according to their shared properties including fish, amphibians, reptiles, and mammals. Children learn the key features of each animal family and group them to their correct family. Children will identify a variety of common animals that are carnivores, herbivores and omnivores. Children will learn about their senses and name, draw, and label the basic parts of the human body.	This unit is prior to work studied in Year 2 where children learn about how animals, and humans, grow and change. Children study life cycles of humans and animals such as butterflies, chickens and frogs.
2	Everyday Materials	Reception: children begin to think about what objects are made of and how objects feel. Children will have tested floating and sinking and began to investigate the properties of objects.	Year 1: children identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Children distinguish between an object and the material from which it is made including if it is 'man-made' or 'natural'. New learning includes describing the simple physical properties of a variety of everyday materials. The knowledge acquired will help children at the end of the unit as they compare and group together a variety of everyday materials on the basis of their simple physical properties.	This unit is prior to work in Year 2 as children compare the suitability of objects and compare how things move on different surfaces.
3	Seasonal Changes	Reception: children learn the names of the 4 seasons and look at changes to trees and plants during this time as each season occurs. They will investigate what they can see, hear, smell and touch during these seasons.	Year 1: children begin to learn more about the 4 seasons, including the months that fall into each season and the weather patterns they follow. They will learn about the changes to the earth's light patterns through the seasons and how the seasons affect animals and plants.	This unit comes before work studied in year 2 about what plants need to grow well and when plants grow best.

5 & 6	Plants	Reception: children learn about the seasons and changes that happen to the plants during those seasons. They have also recognised some fruits and vegetables and named the basic parts of a plant (petals, stem, flower, roots). Children are aware of the plant life cycle.	Year 1: children learn about the names of common plants and trees and learn to identify them by their leaves. They learn about the terms 'evergreen' and 'deciduous' and how deciduous plants fit into the change of the seasons.	This unit is prior to work studied in year 2 where children will recap common plants and trees studied in year 1 before moving onto how plants grow (including germinations and pollination), what they need to grow healthily and differences between bulbs and seeds.

Year Two				
Term	**Area of Learning**	**Prior Learning**	**Current Learning**	**Future Learning**
1	Animals including Humans	This unit is the second of eight science units where children study animals, including humans, as part of the discipline of biology - the study of living organisms. Children have a secure knowledge of common animals, their babies and their habitats. Children can identify and name a variety of common animals that are carnivores, herbivores and omnivores. Children can identify, name, draw and label the basic parts of the human body.	Year 2: children study life cycles and learn that animals, including humans, have offspring which grow into adults. New learning includes the basic needs of animals, including humans, for survival and the importance of exercise, eating the right amounts of different types of food, and hygiene.	This unit is prior to work studied in lower key stage 2 where children learn to classify and group animals and learn about skeletons, vital organs and the digestive system. In Upper key stage 2 children continue their learning looking in more depth at food chains, life cycles, vital organs and the circulatory systems.
2	Plants	This unit follows on from learning in Reception about the seasons and changes that happen to the plants during those seasons. They have also recognised some fruits and vegetables and named the basic parts of a plant. In year 1 the children learned about the names of common plants and trees and how to identify them by their leaves. They learn about the terms 'evergreen' and 'deciduous'.	Year 2: will recap common plants and trees studied in year 1 before moving onto how plants grow (including germination and pollination), what they need to grow healthily and differences between bulbs and seeds. This unit includes an investigation about growing healthy plants.	This unit includes an investigation about growing healthy plants. This is the prior to work studied in Year looking more at what plants need to grow healthily. They will also study water transportation and the process of the life cycle of the plant including pollination, seed formation and seed dispersal. In Year 6, children continue to study plants by studying plant classification for flowering and not flowering plants.
3&4	Everyday Materials	This unit is the second of five science units where children study materials as part of the discipline of chemistry - the	Year 2: this unit builds on children' knowledge of materials of properties as children identify and compare the suitability	This is prior to work studied in Year 3 rocks and soils. The knowledge acquired will help children in Year 4 as children

		identification of the properties a substance is made from. It is also the study of forces as part of the discipline of physics – the study of the processes that shape our world and how we use it. Children have a secure knowledge of the properties of a variety of everyday materials. Children can identify, name and describe an object in terms of the material is made from including if it is 'man-made' or 'natural'. Previous learning includes comparing and grouping together everyday materials on the basis of their simple physical properties	of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses. New learning includes comparing how things move on different surfaces. This unit will help children understand how squashing, bending, twisting and stretching can change the shapes of some solid objects.	study materials in terms of solid, liquid and gases. Year 5 children learn about dissolving, mixing and changes of state, and reversible and irreversible changes. Children also build on previous knowledge of magnetic and non-magnetic metals.
5&6	Living Things and their Habitats	Prior to this unit children will have already started to study habitats by looking at minibeasts and various animals in Reception.	Year 2: children will learn about the food chains of animals in varying habitats and will look at microhabitats and the animals that live there. They will also learn how to determine if something is alive, was once alive or never lived, using the acronym MRS GREN.	This unit comes before work in Year 3 studying the animals native to sea, river and canals and the features that help them to live there. In year 4 children will continue learning about habitats by grouping animals into categories, such as vertebrates/invertebrates, before moving onto work in year 5, studying adaptation and eco-systems.

Year Three				
Term	**Area of Learning**	**Prior Learning**	**Current Learning**	**Future Learning**
1	Light	This unit is the first of two science units where children learn about light as part of the discipline of physics - the study of the processes that shape our world and how we use it. Children have a secure knowledge of the terms opaque, transparent and translucent. They know what plants need, including light, to grow well and how energy from light is the start of a food chain	Year 3: This unit builds upon children' prior knowledge of materials as they recognise that shadows are formed when an opaque object blocks the light from a light source. Children find patterns in the way that the size of shadows changes. In Year 3, children learn we need light in order to see things and that dark is the absence of light. New learning includes that light is reflected from surfaces and it can be separated into a prism of colours. Children learn that light from the	This is prior to work studied in Year 6 as children learn how shadows are formed. The knowledge acquired in this unit will help children to understand how light travels in straight lines and how the amount of light entering the eye is controlled by the children.

			sun can be dangerous and that there are ways to protect their eyes.	
2	Animals including Humans	Children have a secure knowledge of life cycles and what animals, including humans, need to survive and the importance of a healthy lifestyle. Children can identify and name a variety of animals. Children know the names of animals native to the sea, rivers and canals and the features that help them to live there. Children can use classification keys to help group, identify and name a variety of living things in their local and wider environment	Year 3: children learn 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. Children further develop their knowledge of what humans need to thrive by learning about a balanced diet, including how sugar can cause tooth decay and obesity, the food groups and their role in human development. New learning includes how humans and some other animals have skeletons and muscles for support, protection and movement.	This unit is prior to work in year 4 as children learn about the digestive system, teeth and food chains. The knowledge acquired in this unit will help children in Year 5 as they learn about puberty and gestation periods of animals before studying the circulatory system and dental structures in year 6.
3	Forces and Magnets	This unit is the first of three science units where children study forces as part of the discipline of physics - the study of the processes that shape our world and how we use it. There are also many links to the discipline of Chemistry - the identification of the properties a substance is made from. Children have a secure knowledge of resistance and friction, are able to compare how things move on different surfaces and know that applying forces to objects can change their shape. Previous learning includes studying the work of scientist John McAdam and his invention of the tarmac road.	This Year 3 unit builds on children' knowledge of how things move on different surfaces with a focus on the force friction. New learning is based on magnetism as children notice that some forces need contact between two objects, but magnetic forces can act at a distance. Children describe magnets as having two poles and observe how magnets attract or repel each other. Children further develop their knowledge of everyday materials as they compare and group according to whether they are attracted to a magnet and identify some magnetic materials. The knowledge acquired in this unit will help children as they learn more about materials and their properties.	This unit is prior to work in year 5 as children revise magnetism and learn about thermal and electrical conductivity.
4	Plants	This unit is the third of six science units where children learn about plants as part of the discipline of biology - the study of living organisms. Children are able to identify and name a variety of common wild and garden plants including deciduous and evergreen trees. Children	Year 3: During this unit, children revise a significant amount of knowledge from Year 2: the parts of a plant/tree; the function of each part of a plant; what seeds and plants need to grow and be healthy. This unit also reviews and builds upon children' knowledge of germination, pollination and life cycle	The knowledge acquired in this unit will help children to group and classify living things in Year 4. This is prior to work studied in Year 5 when children construct food chains and in Year 6 when children study Linnaean classification,

		are also able to identify and describe the basic structure of a variety of common flowering plants, including trees	diagrams. New learning includes seed formation and the four methods of seed dispersal. Children investigate the way in which water is transported within plants.	adaptations and sexual reproduction in plants.
5&6	Rocks	This unit is the third of five science units where children study materials as part of the discipline of chemistry - the identification of the properties a substance is made from. It is also the study of forces as part of the discipline of physics – the study of the processes that shape our world and how we use it. Children have a secure knowledge of the properties of materials and can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses. Previous learning includes comparing how things move on different surfaces. Children know that squashing, bending, twisting and stretching can change the shapes of some solid objects. Children have studied the work of John Dunlop and John McAdam.	Year 3: This year 3 unit builds on children' knowledge of properties of materials as children learn about rocks and soils. New learning includes comparing and grouping together different kinds of rocks on the basis of their appearance and simple physical properties. Children describe how fossils are formed when things that have lived are trapped within rock and recognise that soils are made from rocks and organic matter. The knowledge acquired of rocks and soils during this unit will help children understand the significance of the life and works of palaeontologist Mary Anning. Later in the year, during a separate Year 3 forces unit, children further develop their knowledge as they 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.	This unit is prior to work studied in Year 4 as children study materials in terms of solids, liquids and gases. Year 5 children learn about dissolving, mixing and changes of state, and reversible and irreversible changes. Children also build on previous knowledge of magnetic and non-magnetic metals.

Year Four				
Term	**Area of Learning**	**Prior Learning**	**Current Learning**	**Future Learning**
1	Sound	This is a stand-alone unit where children learn about sound as part of the discipline of physics - the study of the processes that shape our world and how we use it. It is important to assume that all children have very little prior knowledge in this unit. During teaching, extra attention must be given to explicitly teaching the precise meaning of subject	Year 4: children identify how sounds are made and recognise that vibrations from sounds travel through a medium to the ear. Learning includes the anatomy of the ear. The knowledge of sound acquired in this unit will help children find patterns between the pitch of a sound and features of the object that produced it. It also helps children find patterns between the volume of a sound and the strength of the vibrations that produced	This unit does not link directly with any future science teaching, so it is important that knowledge is secured during the unit.

		specific vocabulary as children may be unfamiliar with this.	it. Children will know that sounds get fainter as the distance from the sound source increases.	
2	States of Matter	This unit is the fourth of five science units where children study materials as part of the discipline of chemistry - the identification of the properties a substance is made from. It is also the study of forces as part of the discipline of physics – the study of the processes that shape our world and how we use it. Children have a secure knowledge of the properties of materials and can identify and compare the suitability of a variety of everyday materials. Previous learning includes comparing how things move on different surfaces and children know that squashing, bending, twisting and stretching can change the shapes of some solid objects. Children have studied the work of John Dunlop, John McAdam and Mary Anning. Children can compare and group different kinds of rocks on the basis of their appearance and simple physical properties. Children know how fossils are formed and recognise that soils are made from rocks and organic matter.	Year 4: This year 4 unit builds on children' knowledge of properties of materials as children learn about states of matter. Children compare and group materials together, according to whether they are solids, liquids or gases. New learning includes 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). Children. The knowledge acquired during this unit will help children understand the water cycle in geography: the part played by evaporation and associate the rate of evaporation with temperature.	This unit is prior to work studied in Year 5 children learn about dissolving, mixing and changes of state, and reversible and irreversible changes.
3	Electricity	This unit is the first of two science units where children learn about electricity as part of the discipline of physics - the study of the processes that shape our world and how we use it. Children will have limited prior knowledge before studying this unit.	Year 4: children identify common appliances that run on electricity and construct a simple series electrical circuit, identifying and naming its basic parts. Children investigate 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. Children recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. They recognise some common	The knowledge acquired in this unit will help children to compare and group together everyday materials on the basis of their properties, in terms of conductivity, in Year 5. This is prior to work studied in Year 6 when children use recognised symbols when representing a simple circuit in a diagram. Children investigate the brightness of lamps or the volume of buzzers with the number and voltage of cells used in the circuit.

			conductors and insulators, and associate metals with being good conductors.	Children compare and give reasons for variations in how components function.
4	Animals including Humans	This unit is the sixth of eight science units where children study animals, including humans, as part of the discipline of biology - the study of living organisms. Children have a secure knowledge of life cycles and what animals, including humans, need to survive. Children know the importance of a healthy lifestyle, including a balanced diet and the effects of sugar, the food groups and their role in human development. Children can identify and name a variety of animals, including the names of animals native to the sea, rivers and canals and the features that help them to live there. Children can use classification keys to help group, identify and name a variety of living things in their local and wider environment. Children know that humans and some other animals have skeletons and muscles for support, protection and movement.	Year 4: children learn about the simple functions of the basic parts of the digestive system in humans. New learning includes identifying the different types of teeth in humans and their simple functions. Children construct and interpret a variety of food chains, identifying producers, predators and prey.	This unit is prior to work in year 5 as children learn about puberty and gestation periods of animals. The knowledge acquired in this unit will help children in Year 6 to learn about the circulatory system and dental structures.
5&6	Living Things and their Habitats	This unit is the fourth of six science units where children learn about plants and animals as part of the discipline of biology- the study of living organisms. Children have a secure knowledge of the functions of the different parts of flowering plants and the requirements of plants for life and growth. They know how water is transported within plants and the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Year 4: builds upon children' prior knowledge of plants as they identify and name a variety of living things in their local and wider environment. Children group living things and begin to use classification keys for flowers (flowering and nonflowering). Animals are classified into warm blooded and cold-blooded, vertebrates and invertebrates. New learning includes knowing the names of common woodland species, which builds on knowledge from the Blue Planet topic in Year 3. Children learn that environments can change and that this can sometimes pose dangers to living things.	This is prior to work studied in Year 5 as children identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. They will also describe the life process of reproduction in some plants and animals. This links to work studied in Year 6 when children study Linnaean classification, adaptations and sexual reproduction in plants

Year Five				
Term	**Area of Learning**	**Prior Learning**	**Current Learning**	**Future Learning**
1	Forces	This unit is the second of three science units where children study forces as part of the discipline of physics - the study of the processes that shape our world and how we use it. There are also many links to the discipline of chemistry - the identification of the properties a substance is made from. Children have a secure knowledge of resistance and friction, are able to compare how things move on different surfaces and know that applying forces to objects can change their shape. Previous learning includes studying the work of scientist John McAdam and his invention of the tarmac road.	Year 5: children revise and build upon previous learning on magnetism. They know some forces need contact between two objects, but magnetic forces can act at a distance. Children know magnets have two poles and that they attract or repel each other. Children further develop their knowledge of magnetic and non- magnetic materials with thermal and electrical conductivity. New learning in this unit includes knowing that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Children study the effects of air resistance, water resistance and friction, that act between moving surfaces. By the end of the unit, children will know that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	The knowledge acquired in this unit will help children as they learn more about materials and their properties. This unit is prior to work in year 6 as children study the movement of the Earth in space.
2	Earth and Space	This unit is the last of three science units where children study forces as part of the discipline of physics - the study of the processes that shape our world and how we use it. There are also many links to the discipline of chemistry - the identification of the properties a substance is made from. Children have a secure knowledge of the effects of air resistance, water resistance and friction, that act between moving surfaces. Children know that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth	Year 5: children describe the Sun, Earth and Moon as approximately spherical bodies. New learning includes knowing about the movement of the Earth, and other planets, relative to the Sun in the solar system. Children learn the movement of the Moon relative to the Earth. By the end of the unit, children use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	This unit is prior to work studied in KS3 when children continue to study forces as part of the discipline of physics. The knowledge acquired in this unit will help children as they learn more about forces and movement, including measuring forces.

		and the falling object. Previous learning includes how some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Children know about magnetic and non- magnetic materials, and thermal and electrical conductivity. They know some forces need contact between two objects, but magnetic forces can act at a distance. Children know magnets have two poles and that they attract or repel each other.		
3	Living Things and Their Habitats	This unit is the fifth of six science units where children learn about plants and animals as part of the discipline of biology- the study of living organisms. Children have a secure knowledge of the functions of the different parts of flowering plants and the requirements of plants for life and growth. They know how water is transported within plants and the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Children can identify and name a variety of living things in their local and wider environment and use classification keys to help group plants and animals. In Year 5, children revise their prior knowledge of food chains, identifying producers, predators and prey.	Year 5: This unit builds on children' understanding of how environments can change and that this can sometimes pose dangers to living things. Children identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. New learning includes knowing particular species of animals and plants and describing the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Children further develop their knowledge of the seven life processes.	The knowledge acquired in this unit will help children understand the life process of reproduction in some plants and animals. This is prior to work studied in Year 6 when children study Linnaean classification, adaptations and sexual reproduction in plants and animals.
4	Animals including Humans	This unit is the seventh of eight science units where children study animals, including humans, as part of the discipline of biology - the study of living organisms. Children have a secure knowledge of life cycles and what animals, including humans, need to survive. Children can use classification keys and interpret food	Year 5: children learn about the changes a human goes through as they develop across their lifetime. Children describe the changes as humans mature to old age and draw a timeline to indicate stages in the growth and development. Children learn what older people need to stay healthy and the difficulties they may face, including memory	This unit is prior to work in Year 6 as children learn about the circulatory system and dental structures.

		chains: identifying producers, predators and prey. Children know that humans and some other animals have skeletons and muscles for support, protection and movement. Previous learning includes the importance of a healthy lifestyle, including a balanced diet and the effects of sugar, the food groups and their role in human development. Children know the functions of the basic parts of the digestive system and the functions of different types of teeth in humans.	loss and a weakened immune system, as a result of old age. In SRE sessions, children learn how babies grow and develop, and about puberty. New learning includes the gestation period and life expectancy of different species of animals.	
5&6	Everyday Materials	This unit is the fifth of five science units where children study materials as part of the discipline of chemistry - the identification of the properties a substance is made from. It is also the study of forces as part of the discipline of physics – the study of the processes that shape our world and how we use it. Children have a secure knowledge of the properties of materials and can identify and compare the suitability of a variety of everyday materials. Children know how things move on different surfaces and children know that squashing, bending, twisting and stretching can change the shapes of some solid objects. Children have studied the work of John Dunlop, John McAdam and Mary Anning. Previous learning includes knowing different kinds of rocks on the basis of their appearance and simple physical properties. Children know how fossils are formed and recognise that soils are made from rocks and organic matter.	Year 5: children further develop their knowledge as they compare and group together everyday materials on the basis of their properties, including hardness, solubility, transparency, electrical and thermal conductivity. Children revise their prior knowledge of magnetic and non-magnetic metals from Year 3. New learning includes knowing that some materials will dissolve in liquid to form a solution and knowing how to recover a substance from a solution. This unit also builds on children' previous knowledge of states of matter. Children know that some materials change state when they are heated or cooled (e.g. evaporation and condensation in the water cycle) and associate the rate of evaporation with temperature. Children use their knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. The knowledge acquired during this unit will help children understand that dissolving, mixing and changes of state are reversible changes. By the end of the unit, children will be able to explain that some	This unit is prior to work studied in KS3 as children continue to learn about states of matter.

			changes result in the formation of new materials, and that this kind of change is not usually reversible.	

Year Six				
Term	**Area of Learning**	**Prior Learning**	**Current Learning**	**Future Learning**
1&5	Evolution and Inheritance And Living Things and their Habitats	This unit is the final of six science units where children learn about plants and animals as part of the discipline of biology- the study of living organisms. This unit comes after children have studied a variety of living things in their local and wider environment. Children know species of animals and plants and how they are adapted to suit their environment and that adaptation may lead to evolution. Children can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Children have secure knowledge of the seven life processes, the requirements of plants for life and growth and food chains.	Year 6: In this unit, children revise and further develop their knowledge of the functions of the different parts of flowering plants related to reproduction. In Year 6, children learn that sexual reproduction in plants happens in a cycle-like pattern: germination, pollination, fertilization and seed dispersal (Year 3 revision). This unit builds on children' previous knowledge of the classification of living things. In Year 6, children 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. Children learn about plant taxonomy- the science that finds, identifies, describes, classifies, and names plants. Children learn about the modern classification system created by Carl Linnaeus and that each species is given a name using Latin words.	Children are introduced to the taxonomic hierarchy in relation to the red fox which is prior to work children will study in KS3.
2	Electricity	This unit is the second of only two science units where children learn about electricity as part of the discipline of physics - the study of the processes that shape our world and how we use it. Children are able to identify common appliances that run on electricity. Children have a secure knowledge of simple series electrical circuits including	Year 6: In Year 6, children learn about the scientists Benjamin Franklin and Thomas Edison and the key role they each played in the discovery of electricity. During this unit, children revise and build upon their previous knowledge of electrical circuits as they use recognised symbols when representing a simple circuit in a diagram. New learning includes associating the brightness of a lamp	This is prior to work studied in KS3 when children continue to study electricity.

		that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. They know some common conductors and insulators, and associate metals with being good conductors.	or the volume of a buzzer with the number and voltage of cells used in the circuit. Children 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.	
3&4	Animals including Humans	This is the final unit of eight science units where children study animals, including humans, as part of the discipline of biology - the study of living organisms. Children have a secure knowledge of life cycles and what animals, including humans, need to survive. Children know that humans and some other animals have skeletons and muscles for support, protection and movement. Children know the functions of the basic parts of the digestive system and the functions of different types of teeth in humans. Previous learning includes the changes a human goes through as they develop across their lifetime. In PSHRE sessions, children learned how babies grow and develop, and about puberty. Children know what older people need to stay healthy and the difficulties they may face as a result of old age.	Year 6: This Year 6 unit builds on children' knowledge of the importance of a healthy lifestyle, including a balanced diet and the effects of sugar, the different food groups and their role in human development. New learning includes recognising the impact of diet, exercise, drugs and lifestyle on the way their bodies function. In Year 6, children identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Children also describe the ways in which nutrients and water are transported within animals, including humans.	This is prior to work studied in KS3 when children continue to study the human body as part of the discipline of biology.
6	Light	This unit is the second of two science units where children learn about light as part of the discipline of physics - the study of the processes that shape our world and how we use it. Children have a secure knowledge of the terms opaque, transparent and translucent; what plants	Year 6: This unit builds upon children' prior knowledge that shadows form when the light from a light source is blocked by an opaque object. Children already know that light is reflected from surfaces, and it can be separated into a prism of colours. New learning includes knowing how light appears	This is prior to work studied in KS3 as children continue to learn about how light can be reflected, refracted and dispersed as part of the discipline of physics.

		need, including light, to grow well and how energy from light is the start of a food chain. Previous learning includes knowing that light from the sun can be dangerous and that there are ways to protect their eyes. Children also know we need light in order to see things and that dark is the absence of light.	to travel in straight lines. Children learn that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. This new knowledge acquired in Year 6 is used to explain why shadows have the same shape as the objects that cast them and that those objects are seen because they give out or reflect light into the eye.	