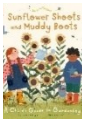
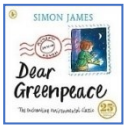
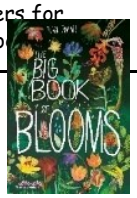
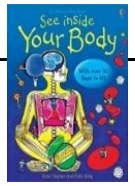
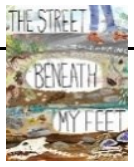
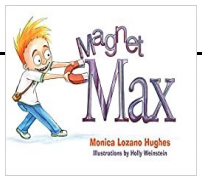
Year	Year one			
Unit	Seasonal changes Physics	Animals including humans Biology	Plants Biology	Everyday materials Chemistry
Outcome	Children can observe changes across the four seasons: children can describe weather associated with the seasons and how the length of days varies due to this.	To know that animals can be divided into vertebrates and invertebrates: to classify and compare animals into fish, amphibians, reptiles, birds and mammals: to learn about carnivores, herbivores and omnivores: to label basic parts of the human body.	To learn that plants are found in most places on the planet: plants are divided into groups: identify the basic structure of a variety of common flowering plants (and trees):	Pupils can distinguish between an object and the material that it is made from: children can identify materials such as wood, plastic, glass, metal, water and rock: children can describe, compare and group materials based on their physical properties.
Links to reading				
Sequence of Learning	1. I can reflect on prior knowledge and ask scientific questions. 2. I can describe how the weather changes across the seasons. I can observe and describe the weather in autumn. 3. I can discuss how the day length varies from season to season. 4. I can identify changes in the trees and in the clothes that we wear from autumn to winter. 5. I can explain that some animals adapt in the winter.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can draw my body and label the parts. 3. I can explain which body parts are used to see, hear, taste, smell and feel. 4. I can use my senses to be a sense detective. 5. I can identify and describe common animals. 6. I can sort animals based on whether they are carnivores, omnivores or herbivores.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can explore planting a bean. 3. I can identify and name common wild and garden plants. 4. I can sort the leaves from deciduous and evergreen trees. 5. I can identify and describe the parts of trees and plants. 6. I can talk about how my bean has grown.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can identify and name different materials. 3. I can explain the difference between an object and the material from which it is made. 4. I can describe physical properties of everyday materials. 5. I can test different materials. 6. I can sort and group objects based on their properties.
Vocabulary	Axis, orbit, temperature, thermometer, compass, shadow	Fish, amphibian, reptiles, birds, mammals, carnivores, herbivores, omnivores	Root, stem, flower, seed, bulb, fruit	Absorbent, bendy, flexible, foil, material, opaque, translucent, transparent, waterproof

Investigation

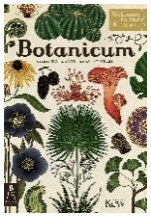
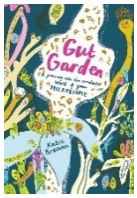
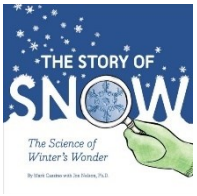
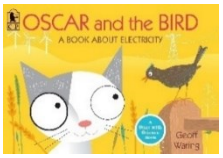
Year	Year two			
Unit	Plants	Living things and their habitats	Animals including humans	Everyday materials
	Biology	Biology	Biology	Chemistry
Outcome	To observe and describe how seeds and bulbs grown into plants: to discover how plants need water, light and the right temperature to grow and stay healthy.	: Children will compare the differences between things that are living, dead and things that have never been alive: children can identify the suitability of different habitats: children can name a variety of animals and plants and their habitats: children can understand a simple food chain.	Children will know that animals (including humans) have offspring which grows into adults: children will discover the basic needs of animals – food, water and air: children will understand the importance of exercise, diet and hygiene.	To learn the suitability of different materials for particular uses: to find that some solid objects can change shape by being squashed, bent, twisted and stretched.
Links to reading				
Sequence of Learning	1. I can reflect on prior knowledge and ask scientific questions. 2 I can look closely at plants and draw a diagram (with labels). 3. I can plant seeds and bulbs to test suitable temperatures for plants to stay healthy 4. I can observe how a bean germinates. 5. I can observe how my bean has grown and make a bar chart to show growth.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can group things that are alive, not alive and things that have never been alive. 3. I can identify and compare a range of habitats. I can consider which animals live there. 4. I can recognise and name different plants and animals that live in their habitats, including the little homes within the bigger places. 5. I can explain how animals get their food from plants and other animals, and I can name different foods they eat. 6. I can draw a simple story of how plants and animals depend on each other for food, showing how energy moves from one to another.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can recognise and describe the life cycle of animals, including humans, from birth to adulthood. 3. I ca identify and describe the similarities and differences in life cycles. 4. I can investigate and compare the need of animals (including humans) for survival. 5. I can explain the significance of exercise, balanced nutrition and hygiene in maintaining human health.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can identify uses of everyday materials. 3. I can explore the suitability of wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. 4. I can explore how some materials can be changed by squashing, bending, twisting and stretching. 5. I can explain about recycling. 6. I can explain how John McAdam used materials to engineer roads.
Vocabulary	Root, stem, flower, seed, bulb, fruit	Habitat, ecosystem, food chain, microhabitat, predator, producer	Life cycle, adulthood, offspring, survival needs, exercise, balanced nutrition, hygiene, health	Absorbent, bendy, flexible, foil, material, opaque, translucent, transparent, waterproof

Investigation

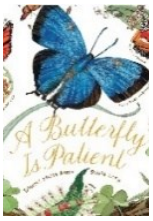
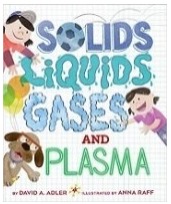
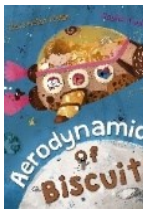
	Year three				
Unit	A Plants	B Animals including humans	C Rocks	D Light	E Forces and magnets
	Biology	Biology	Chemistry	Physics	Physics
Outcome	To learn the relationship between structure and function: the idea that every part has a job to do; explore questions that focus on the role of the roots and stem in nutrition and support; leaves for nutrition and flowers for repro	Importance of nutrition; introduction to the main body parts associated with the skeleton and muscles; finding out how different parts of the body have special functions.	Pupils should explore different kinds of rocks and soils , including those in the local environment.	To explore what happens when light reflects off a mirror or other reflective surfaces; shadows, how they are formed and what might cause the shadows to change.	Observe that magnetic forces can act without direct contact; explore the behaviour and everyday uses of different magnets
Links to reading					
Sequence of Learning	1. I can reflect on prior knowledge and ask scientific questions. 2. I can name the parts of flowering plants and their functions. 3. I can research what plants need to live and grow (and how it varies from plant to plant). 3. I can observe how water is transported in plants. 4. I can observe and then explain fertilisation and dispersal. 5. I can explore the important parts that flowers play in the life cycle of plants.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can explain that humans get their nutrition from what they eat. 3. I can explain the importance of diet and exercise. 4. I can create a model to explain the importance of bones for support, protection and movement. 5. I can explain the importance of muscles for support, protection and movement.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can make compare and group together rocks based on their appearance and physical properties. 3. I can explain that fossils are formed when things that have lived are trapped within rock. 4. I can research Mary Anning's contribution to palaeontology. 5. I can recognise that soils are made from rocks and organic matter. I can examine soil.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can recognise that I need light to see things and that dark is the absence of light. 3. I can notice that light is reflected from surfaces. 4. I can recognise that light from the sun can be dangerous and that there are ways to protect my eyes. 5. I can test how shadows are formed when the light from a light source is blocked by an opaque object. 6. I can find patterns in the way that the size of shadows change.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can identify forces. I can explain how forces need contact but magnetic forces act a distance. 3. I can compare how a toy car moves on different surfaces. 4. I can describe magnets as having two poles. I can predict whether two magnets will attract or repel. 5. I can compare and group materials depending on whether they are attracted to a magnet; identifying magnetic materials.
Vocabulary	nectar, ovary, ovule, pollen, stigma, style, stamen, germination, fertilisation, dispersal	Balanced diet, carbohydrates, fats, herbivore, minerals, protein, unbalanced diet, vertebrates, vitamins	Fossil, igneous rock, metamorphic rock, sedimentary rock, palaeontologist, minerals	beam, ray, source, reflect, shadow, transparent, opaque, luminous	Force, friction, gravity, magnetic field, north pole, south pole, magnetic, non-magnetic

Investigation

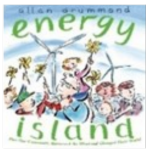
Year four

Unit	Living things and their habitats	Animals including humans	States of matter	Sound	Electricity
	Biology	Biology	Chemistry	Physics	Physics
Outcome	Identify and study plants and animals in their habitat; identify how the habitat changes throughout the year; grouping a wide selection of living things that include animals, flowering plants and non-flowering plants.	Introduction to the main body parts associated with the digestive system; explore questions that help pupils to understand their special functions.	Explore a variety of everyday materials and develop simple descriptions of the states of matter; observe water as a solid, a liquid and a gas; note the changes to water when it is heated or cooled.	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.	Simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices. Pupils should draw the circuit as a pictorial representation,
Links to reading					
Sequence of Learning	1. I can reflect on prior knowledge and ask scientific questions. 2. I can classify living things according to common characteristics. 3. I can understand that all living things can be classified into one of the five kingdoms: animal, plant, fungi, protist and monera. 4. I can use classification keys. 5. I can research invertebrates. I can research vertebrates. 6. I can research the danger that changing environments could have on animals.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can identify and name the parts of the human digestive system. 3. I can explore the functions of the digestive system. 4. I can identify the types of teeth and their functions. 5. I can create a model of teeth to investigate their functions. 6. I can construct and interpret a range of food chains.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can explore solids and their properties. 3. I can explore liquids and their properties. I can explore how water changes state when heated or cooled. 4. I can explore gases and their properties. 5. I can understand the processes of changing state through heating (melting and evaporation) and cooling (condensation and freezing/ solidification). 6. I can plan an investigation to explore soluble and insoluble substances.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can identify how sounds are made and associate them with something that vibrates. 3. I can recognise that vibrations from sound travel through a medium to the ear. 4. I can measure the vibrations produced by instruments and find patterns between volume and vibrations. 5. I can explore ways to change the pitch of sound by creating an instrument with high and low sounds. 6. I can recognise that sounds get fainter as the distance from the source increases.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can explain ways that electricity is generated. I can name common appliances that run on electricity. 3. I can recognise common conductors and insulators. 4. I can construct a simple electrical circuit. I can name the basic parts. 5. I can evaluate series and parallel circuits.
Vocabulary	Amphibians, birds, invertebrates, mammals, vertebrates, animals, plants, fungi, protist, monera	Canines, incisors, large intestine, molars, oesophagus, premolars, rectum, small intestine, stomach, tongue, carnivore, omnivore, herbivore, producer, consumer, prey, predator	Condensation, evaporation, freezing point, gas, liquid, melting point, solid, temperature, molecules, thermometer, water cycle	Frequency, pitch, sound wave, vibration, volume	battery, cell, circuit, component, current, negative terminal, positive terminal, static electricity, voltage, conductor, insulator, series circuit, parallel circuit

Investigation

	Year five				
Unit	**Living Things & Their Habitats**	**Animals including humans**	**Properties & changes of materials**	**Earth & Space**	**Forces**
	Biology	Biology	Chemistry	Physics	Physics
Outcome	Observe life-cycle changes in a variety of living things: plants/ animals in the local environment; the work of naturalists and animal behaviourists: David Attenborough and Jane Goodall.	Stages in the growth and development of humans; gestation periods of other animals and comparing them with humans.	Exploring and comparing the properties of a broad range of materials; explore reversible changes, including evaporating , filtering, sieving, melting and dissolving.	The model of the sun and Earth to explain day and night; learn that the sun is a star at the centre of our solar system and that it has 8 planets; understand that a moon is a celestial body that orbits a planet.	Explore falling objects and raise questions about the effects of air resistance; explore the effects of air resistance by observing how different objects; experience forces that make things begin to move, get faster or slow down; the effects of friction on movement; the effects of levers, pulleys and simple machines on movement.
Links to reading					
Sequence of Learning	**Sequence of learning:** 1. I can reflect on prior knowledge and ask scientific questions. 2. I can classify animals based on whether they are a mammal, amphibian, insect, bird or fish. 3. I can describe the differences in the life cycles of animals. 4. I can research the work of naturalist David Attenborough. 5. I can describe the life process of reproduction in some plants. 6. I can describe the life process of reproduction in some animals.	**Sequence of learning:** 1. I can reflect on prior knowledge and ask scientific questions. 2. I can describe the human life cycle. 3. I can explain how babies grow and develop in their first year. 4. I can research and compare gestation periods. Learning objective 5 TBD (Linked to SRE)	**Sequence of learning:** 1. I can reflect on prior knowledge and ask scientific questions. 2. I can compare materials according to their properties including hardness, conductivity, transparency and response to magnets. 3. I know that some materials will dissolve in liquid to form a solution. 4. I can explore how mixtures can be separated through filtering, sieving and evaporating. 5. I can demonstrate that dissolving, mixing and changes of state are reversible changes. 6. I can explore irreversible changes.	**Sequence of learning:** 1. I can reflect on prior knowledge and ask scientific questions. 2. I can discuss the movement of the planets in relation to the Sun. 3. I can describe the movement of the Moon in relation to the Earth. 4. I can create models of the Sun, Earth and Moon to represent the solar system and explain their rotation. 5. I can explain day and night and the apparent movement of the sun across the sky.	**Sequence of learning:** 1. I can reflect on prior knowledge and ask scientific questions. 2. I can recognise the different forces acting on objects (friction, air resistance and water resistance). I can investigate the effects of friction; recognising and controlling variables. 3. I can research how the first theory of gravity was developed. I can explain the effect that gravity has on objects. 4. I can investigate how air resistance affects moving objects. 5. I can test whether streamlined shapes reduce the effects of water resistance on moving objects. 6. I can design mechanisms that use levers, pulleys and gears to amplify the impact of forces.
Vocabulary	Anther, cell. embryo, fertilisation, life cycle, life span, ovary, ovule. womb	Developmental milestones, ageing process, cognitive development, physical changes, emotional development, puberty, adolescence, life expectancy, gestation period	Atom, dissolve, filter, insoluble, irreversible change, melt, particle, reversible change, soluble, solution	Axis, constellation, eclipse, galaxy, orbit, universe, phases, revolution, rotation	Acceleration, air resistance, element, force mass, meter, gravity, newton, streamlined, water resistance, weight

Investigation

	Year six				
Unit	Living Things & Their Habitats	Animals including humans	Evolution & Inheritance	Light	Electricity
	Biology	Biology	Biology	Physics	Physics
Outcome	Explore classification in detail; broad groupings, such as micro-organisms, plants and animals; classify animals into commonly found invertebrates and vertebrates; significance of the work of scientists such as Carl Linnaeus	Main body parts and internal organs; the circulatory system; how to keep bodies healthy and how bodies might be damaged; the relationship between diet, exercise, drugs, lifestyle and health.	Find out more about how living things on earth have changed over time; idea that characteristics are passed from parents to their offspring; natural selection; genes; mutation in genes; changes over time; Charles Darwin and Alfred Wallace's ideas on evolution.	explore the way that light behaves; the idea that light appears to travel in straight lines; the relationship between light sources, objects and shadows; range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water, and coloured filters.	Building on prior knowledge, construct simple series circuits to answer questions about what happens when they try different components; represent a simple circuit in a diagram using recognised symbols.
Links to reading					
Sequence of Learning	1. I can reflect on prior knowledge and ask scientific questions. 2. I can group micro-organisms according to common observable characteristics. 3. I can group plants according to common observable characteristics. I can explore Frederick Hamilton Davey's work. 4. I can group animals according to common observable characteristics. 5. I can research Carl Linnaeus, a pioneer of classification.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can identify and name the parts of the human circulatory system. 3. I can describe the functions of the human circulatory system. 4. I can explain how water and nutrients are transported around the animal and human body. 5. I can recognise the impact of diet, exercise, drugs and lifestyle on the way the body functions.	1. I can reflect on prior knowledge and ask scientific questions. 2.I can recognise that living things produce offspring of the same kind but do not look identical. 3. I can identify how animals and plants are adapted to suit their environment in different ways. 4. I can recognise that living things have changed over time. 5. I can explain how fossils provide information about living things that inhabited the Earth millions of years ago.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can observe and understand that light seems to move in straight lines from its source to where it's seen. 3. I can test the concept that light travels in straight lines to describe why objects can be seen—they either reflect light from sources or produce light that reaches our eyes. 4. I can test how light travelling in straight lines means that shadows have the same shape as the objects causing them. 5. I can explore how light enables us to see colours. I can play with prisms to create spectrums.	1. I can reflect on prior knowledge and ask scientific questions. 2. I can match the brightness of a lamp or the volume of a buzzer with the number and voltage of cells in a circuit. 3.I can compare and explain differences in how components work, such as the brightness of bulbs, the loudness of buzzers, and the positions of switches in a circuit. 4.I can use recognised symbols to draw a simple circuit in a diagram. 5. I can construct basic circuits, altering the quantity of cells and components to observe variations in brightness, sound levels and the position of the switches.
Vocabulary	Micro-organisms, plant kingdom, animal kingdom, classification, taxonomy, Linnaean Taxonomy, biodiversity,	Circulatory system, heart, blood vessels, arteries, veins, capillaries, pulse, red blood cells, plasma	Adaptation, artificial selection, evolution, inheritance, natural selection	Reflection, refraction, transparency, opaque, emission, luminous, spectrum, prism	Voltage, current, circuit, components, symbol

Investigation