

Science KS1 Cycle A

	Autumn term Plants – identification Animals, including humans – parts of the body	Spring Animals, including humans	Summer Plants – structure Everyday materials
Curriculum Drivers	Possibilities: <i>What will learning this help me do in the future?</i> Respect: <i>How can we care for living things?</i> Skills for Learning: <i>How can what we say or do affect things?</i>		
Key Questions	What is alive? What are bodies and what can they do?	What is alive?	Do living things change or stay the same? What are things made from?
Key Concepts	Living things: What kinds of life are there? How do living things work?	Living things: What kinds of life are there?	Living things: What makes life go on? The world around me: What are things made from?
Key Skills	• to experience and observe phenomena • to look more closely at the natural world around them • to be curious and ask questions about what they notice • use different types of scientific enquiry to answer their own questions • group and classify things • use scientific language to communicate their ideas • learn through first-hand practical experiences	• to experience and observe phenomena • to look more closely at the natural world around them • to be curious and ask questions about what they notice • use different types of scientific enquiry to answer their own questions • group and classify things • use scientific language to communicate their ideas • learn through first-hand practical experiences	• to experience and observe phenomena • to look more closely at the natural and humanly-constructed world around them • to be curious and ask questions about what they notice • use different types of scientific enquiry to answer their own questions • group and classify things • use scientific language to communicate their ideas • learn through first-hand practical experiences
Key Vocabulary	leaf/leaves, flower, blossom, petal, fruit, root bulb, seed, trunk, branch, stem, vegetable body, head, neck, arms, elbows, legs, knees face, ears, eyes, hair, mouth, teeth, tongue	names of common animals, carnivore, herbivore, omnivore tail, wing, claw, fin, scales, feathers, fur, beak body, head, neck, arms, elbows, legs, knees face, ears, eyes, hair, mouth, teeth, tongue	leaf/leaves, flower, blossom, petal, fruit, root bulb, seed, trunk, branch, stem, vegetable object, material, wood, plastic, glass, metal, water rock, hard, soft, stretchy, stiff, bendy, waterproof absorbent

Working scientifically	• asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions Key vocabulary Y1: questions, answers, equipment, gather, measure, record, observe, compare, describe, similar, different, identify, classify, sort, group, observe changes over time, notice patterns <i>Key vocabulary Y2: questions, answers, equipment, gather, measure, record, test, observe, compare, identify, classify, sort, group, observe changes over time, notice patterns</i>		
Key Knowledge	Children will be able to: • identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	Children will be able to: • identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • identify and name a variety of common animals that are carnivores, herbivores and omnivores • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	Children will be able to: • identify and describe the basic structure of a variety of common flowering plants, including trees • distinguish between an object and the material from which it is made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties
	Seasonal changes: • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies Key vocabulary: season, spring, summer, autumn, winter, weather, vocabulary relating to weather		

Science KS1 Cycle B

	Autumn term Animals, including humans	Spring Uses of everyday materials	Summer Plants – growth and health Living things and their habitats – habitats and food chains
Curriculum Drivers	Possibilities: <i>What will this material be used for?</i> Respect: <i>How does what we use affect the environment?</i> Skills for Learning: <i>Can you work together to solve problems?</i>		
Key Questions	What do living things need to survive? How can living things stay healthy?	How do we choose materials? Can we change materials?	What is alive, dead or was never alive? Can living things live forever?
Key Concepts	Living things: What makes life go on? How do living things work?	The world around me: What are things made from? Is form fixed?	Living things: What makes life go on?
Key Skills	- to experience and observe phenomena - to look more closely at the natural world around them - to be curious and ask questions about what they notice - use different types of scientific enquiry to answer their own questions - group and classify things - use scientific language to communicate their ideas - learn through first-hand practical experiences	- to experience and observe phenomena - to look more closely at the natural and humanly-constructed world around them - to be curious and ask questions about what they notice - use different types of scientific enquiry to answer their own questions - group and classify things - use scientific language to communicate their ideas - learn through first-hand practical experiences	- to experience and observe phenomena - to look more closely at the natural world around them - to be curious and ask questions about what they notice - use different types of scientific enquiry to answer their own questions - group and classify things - use scientific language to communicate their ideas - learn through first-hand practical experiences
Key Vocabulary	move, feed, have offspring, young, babies, basic needs, food, food chain, offspring, grow, adults, water, air, survival, exercise, food types, hygiene, <i>Y1 also need: body, head, neck, arms, elbows, legs, knees</i> <i>face, ears, eyes, hair, mouth, teeth, tongue</i>	suitable / unsuitable, use / useful, object, material, property, wood, plastic, glass, metal, water, rock, hard, soft, stretchy, flexible, waterproof, absorbent, shape, changed, twist, squash, bend, stretch <i>Y1 also need: object, material, wood, plastic, glass, metal, water, rock, hard, soft, stretchy, stiff, bendy, waterproof, absorbent</i>	living, dead, never been alive, habitats, pond, meadow, woodland, micro-habitats, suited, basic needs, depend, food, food chain, shelter, seeds, bulbs, water, light, grow / growth, healthy <i>Y1 also need: leaf/leaves, flower, blossom, petal, fruit, root bulb, seed, trunk, branch, stem, vegetable</i>

Working scientifically	• asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions Key vocabulary Y2: questions, answers, equipment, gather, measure, record, test, observe, compare, identify, classify, sort, group, observe changes over time, notice patterns <i>Key vocabulary Y1: questions, answers, equipment, gather, measure, record, observe, compare, describe, similar, different, identify, classify, sort, group, observe changes over time, notice patterns</i>		
Key Knowledge	• notice that animals, including humans, have offspring which grow into adults • find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	• observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy • explore and compare the differences between things that are living, dead, and things that have never been alive • identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • identify and name a variety of plants and animals in their habitats, including micro-habitats • 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
	Seasonal changes: • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies Key vocabulary: season, spring, summer, autumn, winter, weather, vocabulary relating to weather		

Science Lower KS2 Cycle A

	Autumn term Rocks	Spring Light Forces and magnets	Summer Animals, including humans Plants
Curriculum Drivers	Possibilities: <i>How could we change the world?</i> Respect: <i>Is it our responsibility to look after our world?</i> Skills for Learning: <i>How can we use our diamond power in science?</i>		
Key Questions	Are all rocks the same?	What is the dark? What can magnets do?	How do living things work? Do living things need different things to survive?
Key Concepts	The world around me: What natural objects link science with history and geography?	The world around me: Can we see and hear energy? Change: Can forces be useful?	Living things: How do living things work? What makes life go on?
Key skills	• explore, talk about, test and develop ideas about everyday phenomena • ask own questions about what they observe • make decisions about which types of enquiry are likely to be best • draw simple conclusions • use scientific language to talk about, then write about what they have found out • read and spell scientific vocabulary correctly	• explore, talk about, test and develop ideas about everyday phenomena • ask own questions about what they observe • make decisions about which types of enquiry are likely to be best • draw simple conclusions • use scientific language to talk about, then write about what they have found out • read and spell scientific vocabulary correctly	• explore, talk about, test and develop ideas about everyday phenomena • ask own questions about what they observe • make decisions about which types of enquiry are likely to be best • draw simple conclusions • use scientific language to talk about, then write about what they have found out • read and spell scientific vocabulary correctly
Key Vocabulary	rock, soil, fossils, grains, crystals, absorb water	light, dark, darkness, reflect, reflective, shadow, block, direct, direction, transparent, opaque, translucent force, push, pull, contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, non-magnetic, north pole, south pole	nutrition, food types, skeleton, muscles, support, protection, movement, skull, ribs, spine, vertebra, joints, sockets, bones, tendons, vitamins, protein, carbohydrate, fat leaf, leaves, flower, blossom, petal, fruit, berry, root, bulb, seed, trunk, branch, stem, bark, stalk, water, light, air, nutrients, soil, fertiliser, growth, healthy, life cycle, transported, pollination, seed formation, seed dispersal

Working scientifically	• asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings Key vocabulary: questions, types of enquiry, answer, similarities, differences, changes, identify, classify, sort, group, observe changes over time, notice patterns, secondary sources, comparative tests, fair tests, careful, accurate, observations, questions, answers, equipment, gather, measure, record, present, data, evidence, results, keys, bar charts, table, conclusions, prediction, thermometers		
Key Knowledge	• compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter	• recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by an opaque object • find patterns in the way that the size of shadows change • compare how things move on different surfaces • notice that some forces need contact between two objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • describe magnets as having two poles • predict whether two magnets will attract or repel each other, depending on which poles are facing	• identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • identify that humans and some other animals have skeletons and muscles for support, protection and movement • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal

Science Lower KS2 Cycle B

	Autumn term Animals, including humans States of matter	Spring Electricity Sound	Summer Living things and their habitats
Curriculum Drivers	Possibilities: <i>Are we looking after ourselves as well as we could?</i> Respect: <i>How can we protect our planet and its resources?</i> Skills for Learning: <i>How can we improve our problem solving?</i>		
Key Questions	What do our bodies do with the food we eat? Is water always wet?	Can we control electricity? How do we hear different sounds?	Living things: what's the same and what's different? Are living things in danger?
Key Concepts	Living things: How do living things work? Change: Is form fixed?	The world around me: Can we see and hear energy?	Living things: What kinds of life are there? The world around me: What makes life go on?
Key Skills	• explore, talk about, test and develop ideas about everyday phenomena • ask own questions about what they observe • make decisions about which types of enquiry are likely to be best • draw simple conclusions • use scientific language to talk about, then write about what they have found out • read and spell scientific vocabulary correctly	• explore, talk about, test and develop ideas about everyday phenomena • ask own questions about what they observe • make decisions about which types of enquiry are likely to be best • draw simple conclusions • use scientific language to talk about, then write about what they have found out • read and spell scientific vocabulary correctly	• explore, talk about, test and develop ideas about everyday phenomena • ask own questions about what they observe • make decisions about which types of enquiry are likely to be best • draw simple conclusions • use scientific language to talk about, then write about what they have found out • read and spell scientific vocabulary correctly
Key Vocabulary	digestive system, nutrition, mouth, teeth, tongue, oesophagus, stomach, small intestine, large intestine, carnivore, omnivore, herbivore, producer, predator, prey, food chain solid, liquid, gas, change state, heating, cooling, temperature, degrees Celsius, melt, freeze, melting point, boil, boiling point, evaporate, condense, water cycle	appliances, devices, mains, plug, electrical circuit, complete circuit, circuit symbol, components, cell, battery, positive, negative, wire, bulb, switch, buzzer, motor, fast, slow, conductor, insulator, metal, non-metal sound source, noise, vibrate, travel, pitch, tune, high, low, volume, loud, quiet, fainter, strength of vibrations, insulations	classification keys, environment, fish, amphibians, reptiles, birds, mammals, vertebrates, invertebrates, human impact,

Working scientifically	• asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings Key vocabulary: appearance, results, present, questions, types of enquiry, answer, similarities, differences, changes, identify, classify, sort, group, observe changes over time, notice patterns, secondary sources, comparative tests, fair tests, careful, accurate, observations, questions, answers, equipment, gather, measure, record, present, data, evidence, results, keys, bar charts, table, conclusions, prediction, thermometers		
Key Knowledge	• describe the simple functions of the basic parts of the digestive system in humans • identify the different types of teeth in humans and their simple functions • construct and interpret a variety of food chains, identifying producers, predators and prey • compare and group materials together, according to whether they are solids, liquids or gases • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	• identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the pitch of a sound and features of the object that produced it • find patterns between the volume of a sound and the strength of the vibrations that produced it • recognise that sounds get fainter as the distance from the sound source increases	• recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things

Science Upper KS2 Cycle A			
	Autumn term Living things and their habitats (<i>life cycles</i>) Earth and Space	Spring term Forces Living things and their habitats (<i>reproduction in plants and animals</i>)	Summer term Properties and changes of materials Animals, including humans
Curriculum Drivers	Possibilities: <i>Where will this lead you?</i> Respect: <i>How can we sustain our planet?</i> Skills for Learning: <i>How can we solve the problems?</i>		
Key Questions	Do all life cycles look the same? Sun, Earth and Moon: what is moving?	How do things move? How do living things reproduce?	What are things made from and why? Can we change materials? Part 2 How do our bodies change as we get older?
Key Concepts	Living things: What makes life go on? The world around me: How do things move?	The world around me: How do things move? Living things: What makes life go on?	Change: What are things made from? Is form fixed? Living things: What makes life go on?
Key Skills	• explore and talk about their ideas • ask own questions about scientific phenomena • analyse functions, relationships and interactions more systematically • begin to recognise that scientific ideas change and develop over time • select the most appropriate ways to answer science questions • use evidence to justify their ideas • use their scientific knowledge and understanding to explain their findings • read, spell and pronounce scientific vocabulary correctly	• explore and talk about their ideas • ask own questions about scientific phenomena • analyse functions, relationships and interactions more systematically • begin to recognise that scientific ideas change and develop over time • select the most appropriate ways to answer science questions • draw conclusions based on their data and observations • use evidence to justify their ideas • use their scientific knowledge and understanding to explain their findings • read, spell and pronounce scientific vocabulary correctly	• explore and talk about their ideas • ask own questions about scientific phenomena • analyse functions, relationships and interactions more systematically • begin to recognise that scientific ideas change and develop over time • select the most appropriate ways to answer science questions • draw conclusions based on their data and observations • use evidence to justify their ideas • use their scientific knowledge and understanding to explain their findings • read, spell and pronounce scientific vocabulary correctly

Key Vocabulary	life cycle, mammal, amphibian, insect, bird, live young, Earth, planets, Sun, solar system, Moon, celestial body, sphere / spherical, rotate / rotation, names of planets, orbit, geocentric, heliocentric, shadow clocks, sundials, astronomical clocks	fall, Earth, gravity, air resistance, water resistance, friction, moving surfaces, mechanisms, levers, pulleys, gears, force, transfer reproduction, sexual, asexual, mammal	hard, soft, stretchy, rigid, flexible, waterproof, absorbent, rough, smooth, reflective, non-reflective, transparent, opaque, translucent, solubility, electrical conductivity, thermal conductivity, melting, dissolve, solution, soluble, insoluble, filtering, sieving, evaporating, condensing, reversible changes, burning, rusting
Working scientifically	- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - using test results to make predictions to set up further comparative and fair tests - reporting and presenting 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 - identifying scientific evidence that has been used to support or refute ideas or arguments <i>Vocabulary: similarities, differences, identify, classify, data/evidence/results, keys, classification keys, bar charts, scatter graphs, line graphs, table, results, conclusions, causal relationships, prediction, support/refute, secondary sources, opinion/fact, comparative tests, fair tests, variables, gather, measure, record, careful, accurate, accuracy, precision, degree of trust,</i>		
Key Knowledge	- describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird - describe the movement of the Earth, and other planets, relative to the Sun in the solar system - describe the movement of the Moon relative to the Earth - describe the Sun, Earth and Moon as approximately spherical bodies - use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	- explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object - identify the effects of air resistance, water resistance and friction, that act between moving surfaces - recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect - describe the life process of reproduction in some plants and animals	- 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 - know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution - use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating - give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic - demonstrate that dissolving, mixing and changes of state are reversible changes - explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda - describe the changes as humans develop from birth to old age

Science Upper KS2 Cycle B

	Autumn term Evolution and inheritance Animals, including humans	Spring term Electricity	Summer term Living things and their habitats Light
Curriculum Drivers	Possibilities: <i>Where did we come from and where will we go?</i> Respect: <i>What impact do humans have on our world?</i> Skills for Learning: <i>How can we work collaboratively?</i>		
Key Questions	How do living things change over time and place? How do our choices affect how our bodies work?	Can we vary the effects of electricity?	Living things: what's the same and what's different? Part 2 How do we see?
Key Concepts	Living things: What makes life go on? How do living things work?	The world around me: Can forces be useful?	Living things: What kinds of life are there? The world around me: Can we see and hear energy?
Key Skills	• explore and talk about their ideas • ask own questions about scientific phenomena • analyse functions, relationships and interactions more systematically • begin to recognise that scientific ideas change and develop over time • select the most appropriate ways to answer science questions • draw conclusions based on their data and observations • use evidence to justify their ideas • use their scientific knowledge and understanding to explain their findings • read, spell and pronounce scientific vocabulary correctly	• explore and talk about their ideas • analyse functions, relationships and interactions more systematically • select the most appropriate ways to answer science questions • draw conclusions based on their data and observations • use evidence to justify their ideas • use their scientific knowledge and understanding to explain their findings • read, spell and pronounce scientific vocabulary correctly	• explore and talk about their ideas • ask own questions about scientific phenomena • analyse functions, relationships and interactions more systematically • begin to recognise that scientific ideas change and develop over time • select the most appropriate ways to answer science questions • draw conclusions based on their data and observations • use evidence to justify their ideas • use their scientific knowledge and understanding to explain their findings • read, spell and pronounce scientific vocabulary correctly

Key Vocabulary	evolution, suited, adapted / adaptation, offspring, characteristics, vary / variation, inherit, inheritance, fossils circulatory system, heart, blood, blood vessels, oxygen, carbon dioxide, lungs, water, diet, exercise, drugs, lifestyle	electricity, appliances / device, electrical circuit, complete circuit, circuit symbol, cell, battery, positive / negative, terminal, wire, bulb, switch, buzzer, volume metal / non-metal, voltage, current	organism, micro-organism, classification keys, environment, fish, amphibians, reptiles, birds, mammals, vertebrates, invertebrates light source, dark / darkness, reflect, reflective, shadow, block, absorb, direct / direction, transparent, opaque, translucent
Working scientifically	- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - using test results to make predictions to set up further comparative and fair tests - reporting and presenting 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 - identifying scientific evidence that has been used to support or refute ideas or arguments <i>Vocabulary: similarities, differences, identify, classify, data/evidence/results, keys, classification keys, bar charts, scatter graphs, line graphs, table, results, conclusions, causal relationships, prediction, support/refute, secondary sources, opinion/fact, comparative tests, fair tests, variables, gather, measure, record, careful, accurate, accuracy, precision, degree of trust,</i>		
Key Knowledge	- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago - recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents - identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution - identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood - recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function - describe the ways in which nutrients and water are transported within animals, including humans	- associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit - compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches - use recognised symbols when representing a simple circuit in a diagram	- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals - give reasons for classifying plants and animals based on specific characteristics - recognise that light appears to travel in straight lines - use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye - explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes - use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them