Princess May Primary School

Science Curriculum Knowledge and Skills Progression Map 2026–27

A Spiral Curriculum

Our Science curriculum has been designed as a spiral curriculum with the following key principles in mind:

✓ **Cyclical:** Pupils return to the same skills again and again during their time in primary school.
✓ **Increasing depth:** Each time a skill is revisited it is covered with greater complexity
✓ **Prior knowledge:** Upon returning to a skill, prior knowledge is utilised so pupils can build upon previous foundations, rather than starting again.

Our curriculum aims

At Princess May we aim to foster a lasting interest in science, alongside a genuine enjoyment and appreciation of its importance in the world around us. We build on children's natural curiosity and sense of wonder about the natural world, encouraging them to ask questions and explore how things work. Through a range of practical investigations and hands-on experiences, pupils develop a secure understanding of key scientific concepts and knowledge. We place strong emphasis on developing scientific skills, including making predictions, taking accurate measurements and using appropriate scientific vocabulary to explain their thinking. Children are supported to work and think like scientists, developing confidence in observing, testing and drawing conclusions. Our science curriculum also helps pupils recognise the relevance of science in their everyday lives—supporting their understanding of health and wellbeing, their responsibility towards the environment, and the role science plays in shaping the wider world.

Children develop both substantive knowledge (scientific concepts, processes and systems) and disciplinary knowledge (how scientists work and think). Pupils are encouraged to reflect on their learning and understand clear intended outcomes. Opportunities for investigation, discussion, questioning and reflection are embedded throughout, allowing children to evaluate their own understanding and make meaningful connections. Our curriculum equips pupils to think scientifically, ask questions, test ideas, analyse evidence, consider different perspectives and develop informed conclusions about the world around them.

Our curriculum design

Three strands

Based on the National curriculum, three strands have been identified, which run throughout the Science curriculum:

- Scientific knowledge and understanding
- Working scientifically
- Science in action

Substantive knowledge

Substantive knowledge refers to scientific understanding, including concepts, laws, theories and models.
It is referred to as 'Scientific knowledge and understanding' in our curriculum.

New learning is weighted toward the start of each key stage, allowing ample opportunity for it to be revisited and applied in later years.	**Disciplinary knowledge** 'Working scientifically' specifies the understanding of the nature, processes and methods of Science for each year group. It is covered alongside the 'Scientific knowledge and understanding' strand in every unit, not in isolation.

National Curriculum Programme of Study

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. At Princess May, the National Curriculum underpins our curriculum.

Sequence of Learning Overview

In each key stage, children are expected to:

EYFS

ELG: Natural World

Children at the expected level of development will:

- explore the natural world around them, making observations and drawing pictures of animals and plants
- know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class
- understand some important processes and changes in the natural world around them, including the seasons and changing states of matter

KS1 End Points (NC):

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

Lower KS2 Curriculum End Points (NC):

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

Upper KS2 Curriculum End Points (NC):

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Progression of skills and knowledge

Plants

	Skills	Knowledge
EYFS ***Our beautiful planet***	• Commenting on what they see and hear in the natural world. • Recognising that information can be found online and in books. • Drawing and labelling pictures of plants and animals.	• Some objects found in nature are natural, e.g. plants and animals. • Names for the basic plant parts (leaves, flowers, stem and roots.) • Some familiar flowering plants (e.g. daisy, rose, sunflower or daffodil). • Plants and animals live in a range of different places. • Some different places where animals live on the school site. • Plants are alive. • Seeds need water to grow. • Seeds grow into plants if taken care of. • Animals and plants move, grow and feed. • The difference between things that are living and things that are non-living.

		• How to help care for the planet.
Year 1 ***Introduction to plants***	**Posing questions** • Exploring the world around them and raising their own simple questions. • Recognising there are different types of enquiry (ways to answer a question). • Responding to suggestions on how to answer questions. **Planning** • With support, deciding if suggested observations are suitable. • Ordering a simple method. **Predicting** • Suggesting what might happen, often justifying with personal experience. **Observing (qualitative data)** • Using their senses to describe, in simple terms, what they notice or what has changed. **Measuring (quantitative data)** • Using non-standard units to measure and compare. **Researching** • Gathering specific information from one simplified, specified source. **Recording (diagrams)** • Drawing and labelling simple diagrams. **Recording (tables)** • Using a prepared table to record results including: o numbers; o simple observations. **Grouping and classifying** • Grouping based on visible characteristics. **Analysing and drawing conclusions** • Using their results to answer simple questions. • Beginning to recognise when results or observations do not match their predictions.	• A variety of common plants and how they differ. • That deciduous trees lose their leaves seasonally but evergreen trees do not. • The basic structure, including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches and stem, of a variety of common plants, including flowering plants and trees. • To begin to understand how plants grow and change over time.
Year 2 ***Plant growth***	**Posing questions** • Exploring the world around them and raising their own simple questions. • Recognising there are different types of enquiry (ways to answer a question). • Responding to suggestions on how to answer questions. **Planning** • Beginning to recognise whether a planned test is fair. • With support, deciding if suggested observations are suitable. **Predicting** • Suggesting what might happen, often justifying it with personal experience. **Observing** • Using their senses to describe, in simple terms, what they notice or what has changed. **Measuring (quantitative data)** • Beginning to use standard units and read simple scales to measure and compare. • Beginning to use simple measuring equipment to make approximate measurements. **Recording (diagrams)** • Drawing and labelling simple diagrams. **Recording (tables)** • Using a prepared table to record results including: o numbers;	• Seeds and bulbs grow into seedlings by producing roots and shoots. • Seedlings grow into mature plants by developing parts such as roots, stems, leaves and flowers. • Seeds need water and warmth to germinate. • Plants need water, light and a suitable temperature for growth and health.

	o simple observations. **Analysing and drawing conclusions** • Using their results to answer simple questions. • Beginning to recognise when results or observations do not match their predictions.	
Year 3 ***Plant reproduction***	**Posing questions** • Beginning to raise further questions during the enquiry process. • Considering what makes a testable question. • Beginning to recognise that there are different types of enquiry and that they are suitable for different questions. • Beginning to make suggestions about how different questions could be answered. **Planning** • Beginning to suggest what observations to make and how long to make them for. • Making predictions about what they think will happen by using scientific knowledge and/or personal experience to explain their prediction. **Observing** • Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed. **Measuring** • Using standard units to measure and compare. • Using measuring equipment with increasing accuracy. • Reading scales with unmarked intervals between numbers. **Recording** • Using a prepared table to record results including more detailed observations. • Using tables with more than two columns. • Identifying and adding headings to tables. • Beginning to design simple results tables. **Grouping and classifying** • Grouping based on visible characteristics and measurable properties. **Graphing** • Reading the value of bars with greater accuracy. **Analysing and drawing conclusions** • Writing a conclusion to summarise findings using simple scientific vocabulary. • Beginning to suggest how one variable may have affected another. • Beginning to quote results as evidence of relationships. • Identifying data that does not fit a pattern (anomalous data). • Recognising when results or observations do not match their predictions. • Beginning to use identified patterns to predict new values or trends. **Evaluating** • Beginning to identify steps in the method that need changing and suggest improvements. • Beginning to identify which variables were difficult to control and suggesting how to control them better.	• The functions of the basic parts of a plant and the relationship between structure and function. • Water is transported within a plant from the root, through the stem and to the leaves. • Plants need water, light, air, nutrients and a suitable temperature for growth and health. • The needs for growth and health vary from plant to plant. • The life cycle of a plant from seed to mature plant. • Flowers are the reproductive organs of a plant. • Pollination is the transfer of pollen to the female (part of the) flower. • The process of seed formation is the growth of a seed after pollination. • Different methods of seed dispersal and their benefits.

Progression of skills and knowledge

Materials

	Skills	Knowledge
EYFS ***I am a scientist***	• Asking questions about the natural world with support. • Beginning to share ideas and suggestions when working practically. • Beginning to make guesses about what might happen. • Commenting on what they see and hear in the natural world. • Grouping objects, plants and animals with support. • Describing their discoveries when working practically.	• Some objects move when pushed or pulled. • Some objects freeze or melt. • Objects float or sink. • Day is light because the sun is in the sky. • Night is dark because the sun is not in the sky. • Shadows happen when something blocks the light. • About differences in sound.
Year 1 ***Everyday materials***	**Posing questions** • Responding to suggestions on how to answer questions. **Planning** • Beginning to recognise whether a planned test is fair. • With support, deciding if suggested observations are suitable. **Predicting** • Suggesting what might happen, often justifying with personal experience. **Observing (qualitative data)** • Using their senses to describe, in simple terms, what they notice or what has changed. **Recording (tables)** • Using a prepared table to record results including simple observations. **Grouping and classifying** • Grouping based on visible characteristics. **Analysing and drawing conclusions** • Using their results to answer simple questions. • Beginning to recognise when results or observations do not match their predictions.	• Objects are items or things. • A material is what an object is made from. • A variety of everyday materials, including wood, plastic, glass, metal, water and rock. • Property refers to how a material can be described. • Materials can be grouped based on their physical properties.
Year 2 ***Uses of everyday materials***	**Posing questions** • Recognising there are different types of enquiry (ways to answer a question). **Measuring (quantitative)** • Using non-standard units to measure and compare. **Recording (tables)** • Using a prepared table to record results, including numbers. **Grouping and classifying** • Grouping based on visible characteristics. **Graphing** • Representing data using pictograms and block graphs. **Analysing and drawing conclusions** • Using their results to answer simple questions.	• Objects are made from materials that suit their uses. • One material can be used for a range of purposes. • Different materials can be used for the same purpose. • A push or pull must be applied to change the shape of a solid object. • Solid objects can be stretched, twisted, bent or stretched. • Different solid objects may take different amounts of force to change shape.
Year 3 ***Rocks and soil***	**Observing** • Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed. **Researching** • Gathering specific information from a source. **Recording** **Beginning to draw more scientific diagrams by:** • Drawing in 2D to produce simple line diagrams. • Labelling with more scientific vocabulary. **Grouping and classifying**	• Rocks can be grouped based on appearance or properties (e.g. colour, texture, hardness and permeability). • Rocks may contain grains, crystals or fossils. • Grains and crystals appear differently and can be used to classify rocks. • Soils are made from rocks and dead matter. • The relationship between the properties of rocks and their uses. • Fossils can form from the remains of living things. • Rocks can change over time (e.g. erosion and weathering).

	• Grouping based on visible characteristics and measurable properties. **Graphing** • Representing data using bar charts. **Analysing and drawing conclusions** • Beginning to suggest how one variable may have affected another. • Beginning to quote results as evidence of relationships. • Beginning to use identified patterns to predict new values or trends.	
Year 4 ***States of matter***	**Posing questions** • Considering what makes a testable question. **Measuring** • Using standard units to measure and compare. • Using measuring equipment with increasing accuracy. **Recording** • Drawing in 2D to produce simple line diagrams. • Labelling diagrams with more scientific vocabulary. **Researching** • Gathering specific information from a variety of sources. **Analysing and drawing conclusions** • Beginning to use identified patterns to predict new values or trends. • Writing a conclusion to summarise findings using simple scientific vocabulary.	• All substances around us can exist as solids, liquids and gases. • A property of a solid is that it keeps its shape unless a force is applied to it. • A property of a liquid is that it can flow freely and take on the shape of a container. • A property of a gas is that it does not have a fixed shape and can escape from an unsealed container. • Heating causes solids to turn into liquids (melting) and liquids to turn into gases (evaporating). • Cooling causes gases to turn into liquids (condensing) and liquids to turn into solids (freezing). • Water can exist as a solid, a liquid or a gas. • The melting point of water is zero degrees Celsius and the boiling point of water is 100 degrees Celsius. • Water flows around the world in a continuous process called the water cycle. • In the water cycle, evaporation is when bodies of water are heated and turn into water vapour. • In the water cycle, condensation is the process of water vapour cooling to form water droplets in clouds, which can result in precipitation. • The rate of evaporation increases as the temperature rises.
Year 5 ***Mixtures and separation***	**Researching** • Gathering answers to open-ended questions from a variety of sources. **Recording (diagrams)** • Labelling with a broader range of scientific vocabulary. • Annotating diagrams to explain concepts and convey opinions. **Posing questions** • Selecting the most appropriate enquiry method to answer questions and give justification. **Observing (qualitative data)** • Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed. **Planning** • Suggesting which variables will be changed, measured and controlled. • Making and explaining decisions about what observations to make and how long to make them for.	• Some substances will dissolve in a liquid to form a solution. • The factors that affect the time taken to dissolve, including temperature and stirring. • Some liquids and solids can be separated using sieving, filtering and evaporation and to describe these processes.
Year 5 ***Properties and changes***	**Planning** • Writing a method including detail about how to ensure control variables are kept the same. **Predicting** • Making increasingly scientific predictions by: o using previous scientific knowledge and evidence to inform their predictions; o using scientific language to describe a potential outcome or explain why they think something will happen;	• To describe a broader range of materials and their properties, including hardness, solubility, transparency, conductivity and response to magnets. To know: • Dissolving, mixing and changes of state are reversible changes. • Some changes result in the formation of new materials, which are usually irreversible (e.g. burning, rusting, the action of acid on bicarbonate of soda).

	○ making links between topics to evidence a prediction. **Measuring (quantitative data)** • Using standard units to measure and compare with increasing precision (decimals). **Recording (tables)** • Suggesting headings to tables, including units. • Designing results tables with increasing independence with consideration of variables where applicable. **Analysing and drawing conclusions** • Writing a conclusion to summarise findings using increasingly complex scientific vocabulary. **Evaluating** • Identifying which variables were difficult to control and suggesting how to better control them. • Commenting on the degree of trust by also reflecting on: ○ accuracy (human error with equipment); ○ reliability (repeating results).	

Progression of skills and knowledge

Animals, including humans

	Skills	Knowledge
EYFS ***Animal adventures***	• With support, asking questions about the natural world. • Commenting on what they see and hear in the natural world. • Drawing and labelling pictures of plants and animals. • With support, grouping objects, plants and animals.	• The names of familiar animals (e.g. farm animals, pets and animals seen in storybooks.) • The main body parts of common animals (number of legs, wings, fur and tail). • Animals, including humans, use their senses to explore the world. • Animals need food. • Animals and plants move, grow and feed. • The difference between things that are living and things that are non-living. • Plants and animals live in a range of different places (land, sea, air). • Some different places where animals live on the school site.
Year 1 ***Sensitive bodies***	**Posing questions** • Recognising there are different types of enquiry (ways to answer a question). **Observing (qualitative data)** • Using their senses to describe, in simple terms, what they notice or what has changed. **Measuring (quantitative data)** • Using non-standard units to measure and compare. **Recording (diagrams)** • Drawing and labelling simple diagrams. **Recording (tables)** • Using a prepared table to record results including numbers and simple observations. **Grouping and classifying** • Grouping based on visible characteristics. **Analysing and drawing conclusions**	• The key parts of the human body (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth). • The five main senses: sight, smell, hearing, taste and touch. • The skin is used for touch, the tongue is used for taste, the nose is used for smell, the eyes are used for sight and the ears are used for hearing.

	• Using their results to answer simple questions.	
Year 1 ***Comparing animals***	**Posing questions** • Recognising there are different types of enquiry (ways to answer a question). • Responding to suggestions on how to answer questions. **Planning** • Deciding if suggested observations are suitable, with support. **Observing (qualitative data)** • Using their senses to describe, in simple terms, what they notice or what has changed. **Researching** • Gathering specific information from one simplified, specified source. **Recording (diagrams)** • Drawing and labelling simple diagrams. **Grouping and classifying** • Grouping based on visible characteristics. **Graphing** • Representing data using pictograms and block charts. **Analysing and drawing conclusions** • Using their results to answer simple questions.	• A variety of common animals (including fish, amphibians, reptiles, birds and mammals). • The main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns, tusks and shell). • A carnivore is an animal that eats other animals and to give some examples. • A herbivore is an animal that eats only plants and to give some examples. • An omnivore is an animal that eats both animals and plants and to give some examples.
Year 2 ***Life cycles and health***	**Posing questions** • Recognising there are different types of enquiry (ways to answer a question). **Measuring (quantitative data)** • Beginning to use standard units and read simple scales to measure and compare. • Beginning to use simple measuring equipment to make approximate measurements. **Researching** • Gathering specific information from one simplified, specified source. **Recording (tables)** • Using a prepared table to record results, including numbers. **Analysing and drawing conclusions** • Using their results to answer simple questions.	• Baby, toddler, child, teenager and adult are human life cycle stages. • There are differences in the life cycles of different animals. • Humans grow as they age. • The basic survival needs of animals are air, water and food. • Personal hygiene prevents the spread of germs. • Washing our hands and changing our clothes are ways to keep clean. • Exercise can improve performance and well-being. • The five food groups are carbohydrates, fruits and vegetables, dairy and alternatives, protein and oils and spreads. • Humans require a balanced diet to stay healthy.
Year 3 ***Movement and nutrition***	**Measuring** • Using standard units to measure and compare. • Using measuring equipment with increasing accuracy. • Reading scales with unmarked intervals between numbers. **Researching** • Gathering specific information from a variety of sources. **Recording** • Using a prepared table to record results including more detailed observations. **Grouping and classifying** • Grouping based on visible characteristics and measurable properties. **Analysing** • Writing a conclusion to summarise findings using simple scientific vocabulary. **Evaluating** • Beginning to identify new questions that would further the enquiry.	• Animals can be grouped based on the presence of a skeleton. • The skeleton in humans and some animals is used for movement, protection and support. • The muscular system in humans and some animals works with the skeleton for movement. • The main bones in the body. • Animals, including humans, need the right types and amount of nutrition. • Humans cannot make their own food; therefore, they eat to get the nutrition needed. • There are nutrient groups (carbohydrates, protein, fats, fibre, vitamins, minerals and water) with their own functions in the body. • A balanced diet should include all nutrient groups. • Animals have different diets.
Year 4 ***Digestion***	**Planning** • Beginning to select from options which variables will be changed, measured and controlled.	• The main organs of the human digestive system are the mouth, teeth, tongue, oesophagus, stomach, small and large intestines and each has a different function.

and food	**Recording** • Beginning to design simple results tables. **Grouping and classifying** • Grouping based on visible characteristics and measurable properties. **Analysing and drawing conclusions** • Beginning to suggest how one variable may have affected another. • Beginning to use identified patterns to predict new values or trends. **Evaluating** • Beginning to identify steps in the method that need changing and suggest improvements. • Beginning to identify which variables were difficult to control and suggesting how to better control them. • Commenting on the degree of trust by reflecting on the quality of results (repeating results, accurate measurements and maintaining control variables).	• The different types of human teeth are incisors, canines, premolars and molars and each has a different function. • Teeth can be damaged by sugary and acidic food, for example. • It is important to brush teeth twice a day, make good food choices and visit the dentist regularly. • The teeth of carnivores and herbivores are different for a reason. • Predators hunt for their food and prey are the animals being hunted. • Producers make their own food. • Food chains begin with a producer, followed by consumers and arrows to show the energy passed on.
Year 5 ***Human timeline***	**TBC**	TBC
Year 6 ***Circulation and health***	**Planning** • Suggesting which variables will be changed, measured and controlled. • Making and explaining decisions about what observations to make and how long to make them for. • Writing a method, including details about how to ensure control variables are kept the same. • Writing a method that considers reliability by planning repeated readings. • Suggesting the most appropriate equipment to make observations and measurements and justifying their choices. **Predicting** • Making increasingly scientific predictions by using previous scientific knowledge and evidence to inform their predictions, using scientific language to describe a potential outcome or explain why they think something will happen and making links between topics to evidence a prediction. **Observing** • Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed. **Measuring** • Using standard units to measure and compare with increasing precision (decimals). • Reading a wider variety of scales with unmarked intervals between numbers. **Researching** • Gathering answers to questions from a variety of sources. **Recording (tables)** • Using tables with columns that allow for repeat readings. • Suggesting headings to tables, including units. • Designing results tables with increasing independence with consideration of variables where applicable. • Calculating the mean average. **Graphing** • Representing data by using line graphs and scatter graphs. • Plotting points with greater accuracy.	• The main parts of the human circulatory system (heart, blood vessels and blood). • The heart pumps blood around the body. • Blood vessels transport blood around the body. • Blood transports vital substances around the body, including oxygen and nutrients. • The relationships between different organ systems. • The impact of diet, exercise, drugs and lifestyle on the way a body functions. • The heart rate is the number of beats per minute. • Exercise increases heart rate.

	• Reading the value of plotted points with greater accuracy. **Analysing and drawing conclusions** • Recognise the following across a broader range of contexts and in more complexity: naturally occurring patterns and relationships, changes over time and relevant secondary data. • Writing a conclusion to summarise findings using increasingly complex scientific vocabulary. • Suggesting with increasing independence how one variable may have affected another. • Quoting relevant data as evidence of relationships. • Identifying anomalies in repeat data and excluding results where appropriate. • Comparing individual, class and/or model data to the prediction and recognising when they do not match. • Using identified patterns to predict new values or trends. **Evaluating** • Commenting on the degree of trust by also reflecting on the reliability (repeating results) and sources of information (e.g. websites, books).	

Progression of skills and knowledge

Living things

	Skills	Knowledge
EYFS ***Animal adventures***	• With support, asking questions about the natural world. • Commenting on what they see and hear in the natural world. • Drawing and labelling pictures of plants and animals. • With support, grouping objects, plants and animals.	• The names of familiar animals (e.g. farm animals, pets and animals seen in storybooks.) • The main body parts of common animals (number of legs, wings, fur and tail). • Animals, including humans, use their senses to explore the world. • Animals need food. • Animals and plants move, grow and feed. • The difference between things that are living and things that are non-living. • Plants and animals live in a range of different places (land, sea, air). • Some different places where animals live on the school site.
Year 2 ***Habitats***	**Posing questions** • Exploring the world around them and raising their own simple questions. • Recognising there are different types of enquiry (ways to answer a question). **Researching** • Gathering specific information from one simplified, specified source. **Recording (tables)** • Using a prepared table to record results, including simple observations. **Grouping and classifying** • Grouping based on visible characteristics.	• Some of the life processes, including movement, reproduction, sensitivity, growth, • The difference between things that are living, dead, and things that have never been alive, using some of the life processes. • A variety of plants and animals and describe some differences. • A variety of habitats, including woodland, ocean, rainforest and coastal. • A habitat is the environment where an animal or plant lives/grows because it provides what Living things depend upon each other (e.g. for food, shelter). • A food chain can be used to show how animals obtain food from eating either plants and/or other animals.
Year 2 ***Microhabitats***	**Posing questions** • Exploring the world around them and raising their own simple questions. • Recognising that there are different types of enquiry (ways to answer a question). • Responding to suggestions on how to answer questions. **Planning** • With support, deciding if suggested observations are suitable.	• A variety of plants and animals and describe some differences. • A habitat is the environment where an animal or plant lives/grows because it provides what they need to survive. • A microhabitat is a very small habitat (e.g. under stones, logs and leaf litter). • That living things depend upon each other (e.g. for food or shelter).

	• Ordering a simple method. **Predicting** • Suggesting what might happen, often justifying with personal experience. **Observing (qualitative data)** • Using their senses to describe, in simple terms, what they notice or what has changed **Researching** • Gathering specific information from one simplified, specified source. **Recording (tables)** • Recording results using simple observations and tally frequency. **Classification keys** • Organising questions to create a simple classification key. **Analysing and drawing conclusions** • Using results to answer simple questions. • Beginning to recognise when results or observations do not match their predictions.	
Year 4 ***Classification and changing habitats***	**Observing** • Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed. **Recording** • Recording data in Carroll and Venn diagrams. • Using a prepared table to record results, including more detailed observations. • Using tables with more than two columns. **Grouping and classifying** • Grouping based on visible characteristics and measurable properties. • Populating a pre-prepared branching and number key. • Choosing appropriate questions for classification keys. **Researching** • Gathering specific information from a variety of sources.	• Living things can be grouped in different ways. • A classification key can be used to group and identify plants and animals. • Vertebrates are animals that have a backbone and invertebrates are animals that do not have a backbone. • Plants can be grouped into flowering or non-flowering varieties. • Flowering plants include grasses and non-flowering plants include ferns and mosses. • There are five main vertebrate groups: birds, mammals, reptiles, amphibians and fish. • Invertebrate groups include snails, slugs, worms, spiders and insects. • Habitats can change throughout the year, which can be dangerous for living things. • Humans can have both a positive and negative impact on the environment.
Year 5 ***Life cycles and reproduction***	**Posing questions** • Raising questions throughout the enquiry process. • Identifying testable questions. **Planning** • Suggesting which variables will be changed, measured and controlled. • Making and explaining decisions about what observations to make and how long to make them for. **Observing** • Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed. **Measuring** • Using standard units to measure and compare with increasing precision (decimals). **Researching** • Gathering answers to open-ended questions from a variety of sources. **Recording** • Representing data by using line graphs and scatter graphs. • Plotting points with greater accuracy. • Reading the value of plotted points with greater accuracy. **Analysing and drawing conclusions** • Suggesting with increasing independence how one variable may have affected	• A life cycle shows the changes an animal or plant goes through until the reproduction of a new generation when the cycle starts again. • All living things must reproduce for the species to survive. • Sexual reproduction requires two parents whereas asexual reproduction only requires one parent. • There are different processes plants and animals use to reproduce (asexual and sexual reproduction).

	another. • Quoting relevant data as evidence of relationships. • Using identified patterns to predict new values or trends.	
Year 6 ***Classifying big and small***	• Grouping in a broader range of contexts. • Organising the layout of number and branching keys. • Formulating appropriate questions for classification keys.	• To know that 'organism' is a term used to refer to an individual living thing. • To know that micro-organisms are incredibly small and cannot usually be seen by the naked eye. • To know the characteristics of the different groups of vertebrates and commonly found invertebrates.
Year 6 ***Evolution and inheritance***	**Posing questions** • Raising questions throughout the enquiry process. • Selecting the most appropriate enquiry method to answer questions and give justification. **Planning** • Suggesting which variables will be changed, measured and controlled. **Observing** • Using senses to describe, in detail and with a broader range of scientific vocabulary, what is noticed or what has changed. **Recording** • Using tables with columns that allow for repeat readings. • Calculating the mean average. **Grouping and classifying** • Grouping in a broader range of contexts. **Analysing and drawing conclusions** • Suggesting with increasing independence how one variable may have affected another. • Quoting relevant data as evidence of relationships. • Identifying anomalies in repeat data and excluding results where appropriate. • Comparing individual, class and/or model data to the prediction and recognising when they do not match. **Evaluating** • Identifying steps in the method that need changing and suggesting improvements. • Identifying which variables were difficult to control and suggesting how to control them better. • Commenting on the degree of trust by reflecting on accuracy (human error with equipment) and reliability (repeating results). • Posing new questions in response to the data that would extend the enquiry.	• Living things have changed over time. • Fossils provide information about living things that inhabited the Earth millions of years ago. • Characteristics are passed from parents to their offspring but all offspring vary from their parents. • Over time, variation in offspring can affect animals' chances of survival in particular environments. • Animals and plants have adapted to suit their environment over many millions of years and this process can be called evolution.

Progression of skills and knowledge

Forces and space

	Skills	Knowledge
EYFS ***I am a scientist***	• Asking questions about the natural world with support. • Beginning to share ideas and suggestions when working practically. • Beginning to make guesses about what might happen. • Commenting on what they see and hear in the natural world.	• Some objects move when pushed or pulled. • Some objects freeze or melt. • Objects float or sink. • Day is light because the sun is in the sky.

	• Grouping objects, plants and animals with support. • Describing their discoveries when working practically.	• Night is dark because the sun is not in the sky. • Shadows happen when something blocks the light. • About differences in sound. •
Year 3 ***Forces and space***	**Planning** • Beginning to select from options which variables will be changed, measured and controlled. • Suggesting what observations to make and how long to make them for. • Planning a simple method, verbally and in writing. **Researching** • Gathering specific information from a variety of sources. **Recording** • Beginning to draw more scientific diagrams by labelling with more scientific vocabulary and using arrows. • Representing data using bar charts. **Analysing** • Writing a conclusion to summarise findings using simple scientific vocabulary. • Beginning to suggest how one variable may have affected another. • Beginning to quote results as evidence of relationships. **Science in action** • Exploring the uses of friction and magnets in everyday life and industry.	• Examples of contact and non-contact forces. • Some forces are a result of contact between two surfaces but some forces can act at a distance (e.g. magnetism). • Magnets have a north and south pole. • Some examples of magnetic materials, including iron and nickel, and how they react to a magnet and each other. • Some different examples of magnets, including bar, horseshoe, button and ring. • Some uses of magnets. • Friction is a contact force that acts between two surfaces to slow an object down. • Magnetism is a non-contact force that affects objects containing magnetic metal. • The opposite poles of a magnet attract one another and like poles repel one another. • Rougher surfaces have more friction between them than smoother surfaces. • The strength of different magnets may vary.
Year 5 ***Earth and space***	**Posing questions** • Raising questions throughout the enquiry process. • Identifying testable questions. • Selecting the most appropriate enquiry method to answer questions and give justification. **Recording** • Drawing scientific diagrams by: o using a wider range of standard symbols; o drawing with increasing accuracy; o labelling with a broader range of scientific vocabulary; o annotating diagrams to explain concepts and convey opinions. • Suggesting headings to tables, including units. • Designing results tables with increasing independence with consideration of variables where applicable. **Analysing and drawing conclusions** • Using identified patterns to predict new values or trends.	• The Sun is a star at the centre of our Solar System. • The Sun, Earth and Moon are approximately spherical bodies. • The names, order and relative positions of the planets and other main celestial bodies. • A moon is a celestial body that orbits a planet and give examples of moons that orbit other planets. • The Earth and other planets orbit around the Sun. • The tilt of the Earth and its orbit around the Sun causes the seasons. • The Moon orbits around the Earth. • How the Earth's rotation causes day and night and the apparent movement of the Sun across the sky.
Year 5 ***Unbalanced forces***	**Planning** • Suggesting which variables will be changed, measured and controlled. • Making and explaining decisions about what observations to make and how long to make them for. • Writing a method that includes details about how to ensure control variables are kept the same. • Writing a method that considers reliability by planning repeated readings. • Suggesting the most appropriate equipment to make observations and measurements and justifying their choices. **Measuring** • Using standard units to measure and compare with increasing precision (decimals).	• Gravity is a non-contact force that pulls objects together. • Air resistance and water resistance are both types of friction. • Unsupported objects fall towards the Earth because of gravity. • Friction, air resistance and water resistance act in the opposite direction of a moving object. • When forces are unbalanced, the speed, shape or direction of an object changes. • When forces are balanced, the speed, shape or direction of an object stays the same. • Some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. • Rougher surfaces have more friction between them than smoother surfaces and how that may affect movement.

	• Reading a wider variety of scales with unmarked intervals between numbers.
	Recording
	• Drawing scientific diagrams by:
	  o using a wider range of standard symbols;
	  o drawing with increasing accuracy;
	  o labelling with a broader range of scientific vocabulary;
	  o annotating diagrams to explain concepts and convey opinions.
	• Using tables with columns that allow for repeat readings.
	• Suggesting headings to tables, including units.
	• Designing results tables with increasing independence with consideration of variables where applicable.
	• Calculating the mean average.
	Graphing
	• Representing data by using line graphs and scatter graphs.
	• Plotting points with greater accuracy.
	• Reading the value of plotted points with greater accuracy.
	Analysing and drawing conclusions
	• Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.
	• Suggesting with increasing independence how one variable may have affected another.
	• Quoting relevant data as evidence of relationships.
	• Identifying anomalies in repeat data and excluding results where appropriate.
	• Comparing individual, class and/or model data to the prediction and recognising when they do not match.
	• Using identified patterns to predict new values or trends.
	Evaluating
	• Identifying steps in the method that need changing and suggesting improvements.
	• Identifying which variables were difficult to control and suggesting how to control them better.
	• Commenting on the degree of trust by also reflecting on:
	  o accuracy (human error with equipment);
	  o reliability (repeating results);
	  o sources of information (e.g. websites, books).
	• Deciding what data to collect to test direct relationships further.
		• The larger the surface area of an object, the greater the air or water resistance it creates.

Progression of skills and knowledge

Energy

	Skills	Knowledge
Year 3 ***Light and shadows***	**Posing questions** • Beginning to raise further questions during the enquiry process. • Considering what makes a testable question. • Beginning to recognise that there are different types of enquiry and that they are suitable for different questions.	• Light travels from a source (e.g. the Sun, light bulbs and torches). • Light is needed to see things and that dark is the absence of light. • Light from the Sun can be dangerous and how to protect their eyes. • All materials reflect light. • Shadows form when the light from a light source is blocked by an opaque object.

	• Beginning to make suggestions about how different questions could be answered. **Planning** • Making predictions about what they think will happen by using scientific knowledge and/or personal experience to explain their prediction. **Observing** • Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed. **Measuring** • Using standard units to measure and compare. • Using measuring equipment with increasing accuracy. • Reading scales with unmarked intervals between numbers. **Recording** • Using a prepared table to record results including more detailed observations. • Using tables with more than two columns. • Identifying and adding headings to tables. • Beginning to design simple results tables. **Grouping and classifying** • Grouping based on visible characteristics and measurable properties. **Graphing** • Reading the value of bars with greater accuracy. **Analysing and drawing conclusions** • Writing a conclusion to summarise findings using simple scientific vocabulary. • Beginning to suggest how one variable may have affected another. • Beginning to quote results as evidence of relationships. • Identifying data that does not fit a pattern (anomalous data). • Recognising when results or observations do not match their predictions. • Beginning to use identified patterns to predict new values or trends. **Evaluating** • Beginning to identify steps in the method that need changing and suggest improvements. • Beginning to identify which variables were difficult to control and suggesting how to better control them. • Beginning to identify new questions that would further the enquiry.	• Shadows change as a result of changing the position of the light source and changing the distances between the light source, object and surface. • Shadows change position and length throughout the day as the Sun changes position in the sky.
Year 4 ***Electricity and circuits***	**Posing questions** • Considering what makes a testable question. • Beginning to recognise that there are different types of enquiry and that they are suitable for different questions. • Beginning to make suggestions about how different questions could be answered. **Planning** • Planning a simple method, verbally and in writing. • Beginning to write a simple method in numbered steps. • Selecting and beginning to decide what simple equipment might be used to aid observations and measurements. **Predicting** • Making predictions about what they think will happen by predicting a trend by considering how the changing variable will affect the measured variable. **Observing** • Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed. **Recording** • Beginning to draw scientific diagrams that are in 2D and simple line diagrams.	• All electrical appliances need a power source, including batteries or mains electricity. • An electrical circuit needs a complete path for the electrical charge to flow through. • The main components in a series circuit. • There are precautions for working safely with electricity. • Some materials allow electric charge to pass through them quickly and these are known as electrical conductors (e.g. metals). • Some materials do not allow electrical charge to pass through them easily and these are known as electrical insulators (e.g. wood and plastic). • Metals are used for cables and wires because they are good conductors of electricity. • Plastic is used to cover cables and wires because it is a good insulator. • An open switch breaks a series circuit so the components will be off. • A closed switch completes a series circuit so the components will be on. • The relationship between bulb brightness and the number of bulbs in a circuit.

	• Using a prepared table to record results including more detailed observations. • Using tables with more than two columns. • Identifying and adding headings to tables. • Beginning to design simple results tables. **Grouping and classifying** • Grouping based on visible characteristics and measurable properties. **Analysing and drawing conclusions** • Writing a conclusion to summarise findings using simple scientific vocabulary. • Beginning to suggest how one variable may have affected another. • Beginning to use identified patterns to predict new values or trends.	
Year 4 ***Sound and vibrations***	**Planning** • To suggest what observations to make and how long to make them for. **Observing** • To observe closely how different instruments create a sound. **Researching** • To research how cetaceans communicate underwater. **Recording** • To present results using a bar chart. • To design simple results tables. **Analysing and drawing conclusions** • To identify when results or observations do not match predictions.	• Sound is a result of vibrations. • Vibrations from sounds travel through mediums to the ear. • An insulating material reduces the amount of vibrations that pass through it and can be used to protect the ears from damaging sounds. • Different materials provide different amounts of insulation against sound. • A variety of ways to change the pitch or volume of a sound. • Quicker vibrations cause higher-pitched sounds and slower vibrations cause lower-pitched sounds. • Stronger vibrations cause louder sounds and weaker vibrations cause quieter sounds. • Sounds get fainter as the distance from the sound source increases.
Year 6 ***Light and reflection***	**Posing questions** • Identifying testable questions. • Selecting the most appropriate enquiry method to answer questions and give justification. **Planning** • Suggesting which variables will be changed, measured and controlled. • Writing a method including details about how to ensure control variables are kept the same. **Observing** • Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed. **Measuring** • Using standard units to measure and compare with increasing precision (decimals). • Reading a wider variety of scales with unmarked intervals between numbers. **Recording** • Drawing scientific diagrams with increasing accuracy, labelling with a broader range of scientific vocabulary and annotating diagrams to explain concepts and convey opinions. • Using tables with columns that allow for repeat readings. • Calculating the mean average. **Graphing** • Representing data by using line graphs and scatter graphs. • Plotting points with greater accuracy. • Reading the value of plotted points with greater accuracy. **Analysing and drawing conclusions** • Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.	• Gravity is a non-contact force that pulls objects together. • Light travels in a straight line from a light source. • Luminous objects are seen as a result of light directly entering the eye, whereas non-luminous objects reflect light into the eye. • Shiny surfaces reflect light uniformly. • When light is reflected off a surface, its direction changes. • Mirrors and periscopes work using reflection of light on smooth surfaces. • Shadows have the same shape as the objects that cast them as a result of light travelling in straight lines. • There are relationships between light sources, objects and shadows. • The distance between the object and the screen affects the size of the shadow. • The angle of a reflected ray is affected by the angle of the incoming ray on a smooth surface.

	• Suggesting with increasing independence how one variable may have affected another. • Identifying anomalies in repeat data and excluding results where appropriate. • Using identified patterns to predict new values or trends. **Evaluating** • Identifying steps in the method that need changing and suggesting improvements. • Identifying which variables were difficult to control and suggesting how to control them better. • Commenting on the degree of trust by reflecting on accuracy (human error with equipment) and reliability (repeating results).	
Year 6 ***Circuits, batteries and switches***	**Planning** • Suggesting which variables will be changed, measured and controlled. • Writing a method, including details about ensuring control variables are kept the same. • Writing a method that considers reliability by planning repeated readings. • Suggesting the most appropriate equipment to make observations and measurements and justifying their choices. **Predicting** • Using previous scientific knowledge and evidence to inform their predictions. • Using scientific language to describe a potential outcome or explain why they think something will happen. **Observing and measuring** • Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed. • Using standard units to measure and compare with increasing precision (decimals). • Reading a wider variety of scales with unmarked intervals between numbers. **Recording** • Drawing scientific diagrams by using a wider range of standard symbols and drawing with increasing accuracy. • Using tables with columns that allow for repeat readings. • Suggesting headings to tables, including units. • Designing results tables with increasing independence with consideration of variables where applicable. • Calculating the mean average. **Analysing and drawing conclusions** • Writing a conclusion to summarise findings using increasingly complex scientific vocabulary. • Suggesting with increasing independence how one variable may have affected another. • Quoting relevant data as evidence of relationships. • Identifying anomalies in repeat data and excluding results where appropriate. • Comparing individual, class and/or model data to the prediction and recognising when they do not match. • Using identified patterns to predict new values or trends. **Evaluating** • Identifying steps in the method that need changing and suggesting improvements. • Identifying which variables were difficult to control and suggesting how to control them better.	• A variety of components in a series circuit (including buzzer and motor). • Conventions are used to draw circuit diagrams, including the recognised symbols for common components and using straight lines. • The voltage of a circuit can be changed and this affects bulb brightness (or buzzer volume).

Progression of skills and knowledge

Making connections

	Skills	Knowledge
Year 1 ***Science through stories***	**Posing questions** • Exploring the world around them and raising their own simple questions. • Recognising there are different types of enquiry (ways to answer a question). • Responding to suggestions on how to answer questions. **Planning** • Beginning to recognise whether a planned test is fair. • With support, deciding if suggested observations are suitable. **Predicting** • Suggesting what might happen, often justifying with personal experience. **Observing (qualitative data)** • Using their senses to describe, in simple terms, what they notice or what has changed. **Measuring (quantitative data)** • Beginning to use standard units and read simple scales to measure and compare. • Beginning to use simple measuring equipment to make approximate measurements. **Researching** • Gathering specific information from one simplified, specified source. **Recording (tables)** • Using a prepared table to record results including: o numbers; o simple observations. **Grouping and classifying** • Grouping based on visible characteristics. **Analysing and drawing conclusions** • Using their results to answer simple questions. • Beginning to recognise when results or observations do not match their predictions.	**Plants** To know: • The basic structure, including leaves, flowers (blossom), fruit, roots, bulb, seed, trunk, branches and stem, of a variety of common plants, including flowering plants and trees. • How plants grow and change over time. **Animals, including humans** To know: • A variety of common animals (including fish, amphibians, reptiles, birds and mammals). • The main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns/tusks and shell). • The diets of carnivores, herbivores and omnivores and give examples. **Everyday materials** To know: • A variety of everyday materials, including wood, plastic, glass, metal, water and rock. • Property refers to how a material can be described. • The physical properties of a variety of everyday materials. **Seasonal changes** To know: • The name and order of the four seasons: spring, summer, autumn and winter. • The weather associated with the four seasons and how it changes (in the UK).
Year 2 ***Plant based materials***	**Posing questions** • Exploring the world around them and raising their own simple questions. • Recognising there are different types of enquiry (ways to answer a question). • Responding to suggestions on how to answer questions. **Planning** • Beginning to recognise whether a planned test is fair. • With support, deciding if suggested observations are suitable. **Predicting** • Suggesting what might happen, often justifying it with personal experience. **Observing (qualitative data)** • Using their senses to describe, in simple terms, what they notice or what has changed. **Researching**	**Plants** To know: • Seeds and bulbs grow into seedlings by producing roots and shoots. • Seeds need water and warmth to germinate. • Plants need water, light and a suitable temperature for growth and health. **Living things and their habitats** To know: • Some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition. • The difference between things that are living, dead and things that have never been alive, using some of the life processes. **Materials** To know: • Why objects are made from particular materials and to give examples of their

	• Gathering specific information from one simplified, specified source. **Recording (tables)** • Using a prepared table to record results including: o numbers; o simple observations. **Grouping and classifying** • Grouping based on visible characteristics. **Analysing and drawing conclusions** • Using their results to answer simple questions. • Beginning to recognise when results or observations do not match their predictions.	suitability. • One material can be used for a range of purposes (and to give examples.) • Different materials can be used for the same purpose (and to give examples.) • Why certain materials are unsuitable for particular objects. • Solid objects can be squashed, bent, twisted or stretched. **Science in action** To know: • About famous scientists throughout history. • About the work of modern-day scientists.
Year 3 ***Does hand span affect grip strength?***	• Posing questions. • Planning. • Predicting. • Observing. • Measuring. • Recording. • Graphing. • Analysing and drawing conclusions. • Evaluating.	**Movement and nutrition** To know: • The muscular system in humans and some animals works with the skeleton for movement. • The main food groups (carbohydrates, protein, fats and oils, fibre, vitamins, minerals and water) and their simple functions. **Forces and magnets** To know: • Friction is a contact force that acts between two surfaces to slow an object down. • Rougher surfaces have more friction between them than smoother surfaces. **Rocks and soil** • To understand the relationship between the properties of rocks and their uses. **Light and shadows** • To know that shadows are formed when the light from a light source is blocked by an opaque object. **Plant reproduction** To know: • Flowers are the reproductive organs of a plant. • The process of pollination is the transfer of pollen to the female (part of the) flower. • The process of seed formation is the growth of a seed after pollination.
Year 4 ***How does the flow of liquid compare?***	• Posing questions. • Planning. • Predicting. • Observing. • Measuring. • Recording. • Graphing. • Analysing and drawing conclusions. • Evaluating.	**States of matter** To know: • How to compare and group materials together, according to whether they are solids, liquids or gases. • The part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. **Classification and changing habitats** To know: • And use classification keys to help group, identify and name a variety of living things in their local and wider environment. • Environments can change and that this can sometimes pose dangers to living things. **Electricity and circuits** To know: • A switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. • Some common conductors and insulators, and associate metals with being good conductors. **Sound and vibrations**

		To know: • How sounds are made, associating some of them with something vibrating. • Vibrations from sounds travel through a medium to the ear. **Digestion and food** • To know the simple functions of the basic parts of the digestive system in humans.
Year 5 ***Does the size of an asteroid affect the size of its crater?***	**TBC**	TBC
Year 6 ***Are some sunglasses safer than others?***	• Posing questions. • Planning. • Predicting. • Observing. • Measuring. • Recording. • Graphing. • Analysing and drawing conclusions. • Evaluating.	**Classifying big and small** • To know the characteristics of the different groups of vertebrates and commonly found invertebrates. **Light and reflection** To know: • When light is reflected off a surface, its direction changes. • Luminous objects are seen as a result of light directly entering the eye, whereas non-luminous objects reflect light into the eye. **Evolution and inheritance** To know: • Characteristics are passed from parents to their offspring, but all offspring vary from their parents. • Animals and plants have adapted to suit their environment over many millions of years and this process can be called evolution. • Over time, variation in offspring can affect animals' chances of survival in particular environments. **Circuits, batteries and switches** To know: • A variety of components in a series circuit (including buzzer and motor). • Conventions are used to draw circuit diagrams, including the recognised symbols for common components and using straight lines. **Circulation and health** • To know the impact of diet, exercise, drugs and lifestyle on the way a body functions. **Science in action** To know: • There are spiritual, moral, social and cultural links with Science. • A range of jobs and careers use scientific knowledge and methods. • The work of modern-day scientists. • Scientific evidence is used to support or refute ideas or arguments. • Current scientific research is taking place with specific aims for the future.