Science KS2 End Points

Year A

	Topic	NC	National Curriculum	Our end points
Autumn 1	Food and Digestion	Y4	• 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	• I can identify and name some parts of the human digestive system. • I can describe the functions of the organs in the human digestive system. • I can identify and describe the different types of teeth in humans. • I can describe the functions of different human teeth. • I can use food chains to identify producers, predators and prey. • I can construct food chains to identify producers, predators and prey.
Autumn 2	Sound	Y4	• 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	• I can describe how sound is made. • I can explain how sound travels from a source to our ears. • I can explain the place of vibration in hearing. • I can explore the correlation between pitch and the object producing a sound. • I can explore the correlation between the volume of a sound and the strength of the vibrations that produced it. • I can describe what happens to a sound as it travels away from its source.

Spring	Electricity	Y4	• 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	• I can identify and name appliances that require electricity to function. • I can construct a series circuit. • I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers). • I can draw a circuit diagram. • I can predict and test whether a lamp will light within a circuit. • I can describe the function of a switch in a circuit. • I can describe the difference between a conductor and insulators; giving examples of each.
Summer 1	States of Matter	Y4	• 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	• I can group materials based on their state of matter (solid, liquid, gas). • I can describe how some materials can change state. • I can explore how materials change state. • I can measure the temperature at which materials change state. • I can describe the water cycle. • I can explain the part played by evaporation and condensation in the water cycle.

Sum 2	Living things and their habitats	Y4	• 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	• I can group living things in different ways. • I can use classification keys to group, identify and name living things. • I can create classification keys to group, identify and name living things (for others to use). • I can describe how changes to an environment could endanger living things.

Year B

	Topic	NC	National Curriculum	Our end points
Autumn 1	Forces and Mechanisms	Y5	• 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	• I can identify and explain the affect of gravity. • I can identify and explain the effect of water resistance. • I can identify and explain the effect of friction. • I can explain how levers, pulleys and gears allow a smaller force to have a greater effect.
Autumn 2	Earth and Space	Y5	• 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	• I can describe and explain the movement of the Earth and other planets relative to the Sun. • I can describe and explain the movement of the Moon relative to the Earth. • I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. • I can describe the Sun, Earth and Moon (using the term spherical).

Spring	Properties and Changes of Materials	Y5	• 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	• I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. • I can know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. • I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • I can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. • I can demonstrate that dissolving, mixing and some changes of state are reversible changes. • I can give evidenced reasons why materials should be used for specific purposes.

Summer	Human reproduction and ageing	Y5	• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals • describe the changes as humans develop to old age	• I can create a timeline to indicate stages of growth in humans and another living creature. • Give reasons why changes occur during puberty. • Explain the main changes that take place in old age.

Year C

	Topic	NC	National Curriculum	Our end points
Autumn 1	Evolution and Inheritance	Y6	• 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 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	• I can describe how the earth and living things have changed over time. • I can explain how fossils can be used to find out about the past. • I can explain about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents). • I can explain how animals and plants are adapted to suit their environment. • I can link adaptation over time to evolution.
Autumn 2	Light	Y6	• 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	• I can explain how light travels. • I can explain and demonstrate how we see objects. • I can explain why shadows have the same shape as the object that casts them. • I can explain how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.

Spring	Electricity	Y6	• 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	• I can explain how the number & voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer. • I can compare and give reasons for why components work and do not work in a circuit. • I can draw circuit diagrams using correct symbols
Summer 1	Circulatory System	Y6	• 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	• I can identify and name the main parts of the human circulatory system. • I can discuss the impact of diet, exercise, drugs and lifestyle on health. • I can describe the ways in which nutrients and water are transported in animals, including humans.

Year D

	Topic	NC	National Curriculum	Our end points
Autumn 1	Animal Nutrition and the Skeletal System	Y3	• 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	• I can explain the importance of a nutritious, balanced diet. • I can explain animals cannot make their own food; they get nutrition from what they eat. • Identify that humans and some other animals have skeletons for support, protection and movement. • Identify that humans and some other animals have muscles for support, protection and movement.

Spring	Rocks Forces and Magnetism	Y3	• 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 • compare how things move on different surfaces • notice that some forces need contact between 2 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 2 poles • predict whether 2 magnets will attract or repel each other, depending on which poles are facing	• I can compare how things move on different surfaces. • I know that some forces need contact between two objects, but magnetic forces can act at a distance. • I can compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. • I can describe magnets having two poles. • I can predict whether two magnets will attract or repel each other, depending on which poles are facing.
Summer 1	Light and Shadows	Y3	• 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	• I can describe that dark is the absence of light. • I can explain that light is needed in order to see. • I can explain that light is reflected from a surface. • I can explore shadow size and explain. • I can explain the danger of direct sunlight and describe how to keep protected. • I can explain and demonstrate how a shadow is formed.

Summer 2	Plant nutrition and reproduction	Y3	• 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	• I can describe the function of different parts of flowering plants and trees. • I can explain what plants require for life and growth and how they vary from plant to plant. • I can explore and describe how water is transported within plants. • I can explain the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.