



LKS2 - Science

National Curriculum requirements:

To work scientifically

Biology:

Plants

- Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal.

Evolution and inheritance

- Look at resemblance in offspring.
- Look at changes in animals over time.
- Look at adaptation to environments.
- Look at differences in offspring.
- Look at adaptation and evolution.
- Look at changes to the human skeleton over time.

Animals and humans

- Look at nutrition, transportation of water and nutrients in the body, and the muscle and skeleton system of humans and animals.
- Look at the digestive system in humans.
- Look at teeth.
- Look at the human circulatory system.

All living things

- Identify and name plants and animals
- Look at classification keys.
- Look at the life cycle of animals and plants.
- Look at classification of plants, animals and micro organisms.
- Look at reproduction in plants and animals, and human growth and changes.



- Look at the effect of diet, exercise and drugs

Chemistry

Rocks and fossils

- Compare and group rocks and describe the formation of fossils.

States of matter

- Look at solids, liquids and gases, changes of state, evaporation, condensation and the water cycle.

Materials

- Examine the properties of materials using various tests.
- Look at solubility and recovering dissolved substances.
- Separate mixtures.
- Examine changes to materials that create new materials that are usually not reversible.

Physics

Light

- Look at sources, seeing, reflections and shadows.
- Explain how light appears to travel in straight lines and how this affects seeing and shadows.

Sound

- Look at sources, vibration, volume and pitch.

Electricity

- Look at appliances, circuits, lamps, switches, insulators and conductors.
- Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials.

Forces and magnets

- Look at contact and distant forces, attraction and repulsion, comparing and grouping materials.
- Look at poles, attraction and repulsion.
- Look at the effect of gravity and drag forces.



- Look at transference of forces in gears, pulleys, levers and springs.

Earth and space

- Look at the movement of the Earth and the Moon
 - Explain day and night

Whole School Learning Objectives:

- To work scientifically
- To understand plants
- To understand animals and humans
- To investigate living things
- To understand evolution and inheritance
- To investigate materials
- To understand movement, forces and magnets
- To investigate light and seeing
- To investigate sound and hearing
- To understand electrical circuits
- To understand the Earth's movement in space

Science - LKS2	Cycle A	Cycle B
To work scientifically	<ul style="list-style-type: none"> • Ask relevant questions. • Set up simple practical enquiries and comparative and fair tests. • Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables. 	

	<ul style="list-style-type: none"> • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests. • Identify differences, similarities or changes related to simple, scientific ideas and processes. • Use straightforward, scientific evidence to answer questions or to support their findings 	
To understand plants	<ul style="list-style-type: none"> • Identify and describe the functions of different parts of flowering plants: roots, stem, 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 role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	
To understand animals and humans		<ul style="list-style-type: none"> • Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. • Describe the ways in which nutrients and

		<p>water are transported within animals, including humans.</p> <ul style="list-style-type: none"> • Identify that humans and some animals have skeletons and muscles for support, protection and movement. • 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.
To investigate living things	<ul style="list-style-type: none"> • Identify and name a variety of living things (plants and animals) in the local and wider environment, using classification keys to assign them to groups. • Give reasons for classifying plants and animals based on specific characteristics. • Recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats. 	
To understand evolution and inheritance		<ul style="list-style-type: none"> • Identify how plants and animals, including humans, resemble their parents in many features. • Recognise that living things have changed over time and that fossils provide

		<p>information about living things that inhabited the Earth millions of years ago. Identify how animals and plants are suited to and adapt to their environment in different ways.</p>
<p>To investigate materials</p>	<ul style="list-style-type: none"> • Compare and group together different kinds of rocks on the basis of their simple, physical properties. • Relate the simple physical properties of some rocks to their formation (igneous or sedimentary). • Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock. • 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 the temperature at which this happens in degrees Celsius ($^{\circ}\text{C}$), building on their teaching in mathematics. • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 	

<p>To understand movement, forces and magnets</p>		<ul style="list-style-type: none"> • Notice that some forces need contact between two objects and some forces 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.
<p>To investigate light and seeing</p>	<ul style="list-style-type: none"> • Notice that light is reflected from surfaces. • Associate shadows with a light source being blocked by something; find patterns that determine the size of shadows. 	
<p>To investigate sound and hearing</p>	<ul style="list-style-type: none"> • Identify how sounds are made, associating some of them with something vibrating. • Recognise that sounds get fainter as the distance from the sound's source increases 	
<p>To understand electrical circuits</p>		<ul style="list-style-type: none"> • Identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a

		<p>complete loop with a battery.</p> <ul style="list-style-type: none"> • 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.
<p>To understand the Earth's movements in space</p>		<ul style="list-style-type: none"> • Describe the movement of the Earth relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth.