

Science NC Coverage

Please note that the pink objectives are taken from the PSHE curriculum (This also included those from the statutory HSE.RSE curriculum) and are taught alongside science content to enable a context to be added and therefore improve the learning and understanding.

KSI

	(Cycle A)	(Cycle B)
Working scientifically	<ul style="list-style-type: none"> ask simple questions and recognise that they can be answered in different ways observe closely, using simple equipment perform simple tests identify and classify use observations and ideas to suggest answers to questions gather and record data to help in answering questions. 	
Seasonal changes	<p>Falling leaves everywhere!</p> <ul style="list-style-type: none"> Observe changes across the four seasons: Autumn to Winter Observe and describe weather associated with the seasons and how day length varies. Autumn to Winter 	<p>Materials around me – Can we help Traction Man build?</p> <ul style="list-style-type: none"> 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 (Y1) Compare and group together a variety of everyday materials on the basis of their simple physical properties. 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. (Y2)
Plants Y1	<p>Plants and Animals around my School</p> <ul style="list-style-type: none"> Identify and describe the basic structure of a variety of common flowering plants, including trees. <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p>	
Plants Y2	<p>Jack's Beanstalk</p> <ul style="list-style-type: none"> 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. 	<p>Sunrise and Sunset</p> <ul style="list-style-type: none"> Observe changes across the four seasons: All seasons <p>Observe and describe weather associated with the seasons and how day length varies. Length of day across the seasons</p>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Living things and their habitats</p>	<h3 style="text-align: center;">Habitats - Animal Homes</h3> <ul style="list-style-type: none"> • 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 microhabitats • 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. 	<h3 style="text-align: center;">My Incredible Body (Y1/2)</h3> <ul style="list-style-type: none"> • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1) <i>including external genitalia (e.g. vulva, vagina, penis and testicles.)</i> • Notice that humans, have offspring which grow into adults (Y2) • Find out about and describe the basic needs of humans, for survival (water, food and air) (Y2) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2) • <i>That household products (including medicines) can be harmful if not used correctly.</i> • <i>About things that people can put into their body or on their skin; how these can affect how people feel.</i> • <i>About foods that support good health and the risks of eating too much sugar</i> • <i>About how physical activity helps us to stay healthy, and ways to be physically active every day.</i> • <i>Simple hygiene routines that can stop germs from spreading.</i> • <i>That medicines can help people to stay healthy.</i> • <i>About dental care and visiting the dentist, how to brush teeth correctly; food and drink that support dental health.</i>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Seasonal changes</p>	<h3 style="text-align: center;">School in Bloom</h3> <ul style="list-style-type: none"> • Observe changes across the four seasons: Spring to Summer Observe and describe weather associated with the seasons and how day length varies. Spring to summer compared to winter temp 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Animals, including humans</p> <h3 style="text-align: center;">Amazing Animals all Around (Y1/2)</h3> <ul style="list-style-type: none"> • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals (Y1) • Find out about and describe the basic needs of animals for survival (water, food and air) (Y2) • Identify and name a variety of common animals that are carnivores, herbivores and omnivores (Y1) • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) (Y1) • Notice that animals, including humans, have offspring which grow into adults (Y2)

LKS2 (Y3/4)

(Cycle A)

(Cycle B)

Working scientifically

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests
- make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including 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, keys, bar charts, and tables
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identify differences, similarities or changes related to simple scientific ideas and processes
- use straightforward scientific evidence to answer questions or to support their findings.

Electricity

Creating Circuits: Electricity and Conductors

- 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.

Animals including humans

My Body: Food and Digestion

- 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.
- About what constitutes a healthy diet; how to plan healthy meals; benefits to health and wellbeing of eating nutritionally rich meals.
- How to maintain good oral hygiene; why regular visits to the dentists are essential; the impact of lifestyle choices on our teeth.
- That bacteria and viruses can affect health; how everyday hygiene routines can limit the spread of infection.
- Parts of the body-including genitalia

Rocks	<h3>Down Beneath my Feet: Fossils, Rocks and Soils</h3> <ul style="list-style-type: none"> • 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. 		<h3>Creating Sound</h3> <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 source increases. • 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.
States of Matter	<h3>The Water Cycle</h3> <ul style="list-style-type: none"> • 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; 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. 	Sound	
Plants	<h3>Plants: Pollination and Life Cycles</h3> <ul style="list-style-type: none"> • 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. Recognise that living things can be grouped in a variety of ways. 	Forces and Magnets	<h3>Forces: Magnets</h3> <ul style="list-style-type: none"> • Compare how things move on different surfaces. • Explain 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.

Light and Shadows

- 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 opaque objects.
- Find patterns in the way that the size of shadows change.

My body: keeping strong and healthy

- 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.
- How regular exercise benefits mental and physical health.
- Recognise opportunities to be physically active and some of the risks of an inactive lifestyle.
- About how sleep contributes to a healthy lifestyle; routines that support good quality sleep; the effects of lack of sleep on the body, feelings, behaviour and ability to learn.

Classification (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 the local and wider environment.
- Recognise that environments can change and that this can sometimes pose dangers to living things.

UKS2 (Y5/6)

(Cycle A)

(Cycle B)

Working scientifically

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- use test results to make predictions to set up further comparative and fair tests
- report 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
- identify scientific evidence that has been used to support or refute ideas or arguments.

Electricity

Electricity: Circuit Variation

- 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.

Earth and Space

The Earth in Space

- 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.

Light

Light: How Light Travels

- 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.

Forces

Forces: Making Things Move

- 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.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Living things and their habitat/Animals including humans</p>	<h3 style="text-align: center;">Life Cycles and Processes</h3> <ul style="list-style-type: none"> Describe the differences in the life cycles of a mammal, an amphibian, an insect and birds. Describe the life process of reproduction in some plants and animals. Describe the changes as humans develop to old age. About how hygiene routines change during puberty, the importance of keeping clean and how to maintain personal hygiene. To identify the external genitalia and internal reproductive organs in males and females and how the process of puberty (including menstruation, key facts about the menstrual cycle and menstrual wellbeing) 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Animals inc Humans</p>	<h3 style="text-align: center;">The Heart and How to Keep it Healthy</h3> <ul style="list-style-type: none"> 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. About the risks and effects of legal drugs common to everyday life (e.g. cigarettes/e-cigarettes, alcohol and medicines) To recognise that there are laws surrounding the use of legal drugs and that some drugs are illegal to own, use and give to others. About why people choose to use or not use drugs (including nicotine alcohol and medicines) About the organisations that can support people concerning alcohol, tobacco and nicotine or other drug use. How medicines, when used responsibly, contribute to health; that some diseases can be prevented by vaccinations and immunisations; how allergies can be managed.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Living Things and their Habitats</p>	<h3 style="text-align: center;">Classification</h3> <ul style="list-style-type: none"> Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics. 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Properties and Changes of Materials</p>	<h3 style="text-align: center;">Solids, Liquids and Gases: The Interconnectable Link Between</h3> <ul style="list-style-type: none"> 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. Explain 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.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Evolution and Inheritance</p>	<h3 style="text-align: center;">Evolution and Inheritance</h3> <ul style="list-style-type: none"> 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. 		