



Science



Key Stage 1: Asking and Answering Questions (AQ), Observing Closely (OC), Performing Simple Tests (PST), Identifying and Classifying, Using Observations (UO), Gathering and Recording Data (GRD)

Key Stage 2: Asking Questions and Using Scientific Enquiry (AQSE), Setting up Simple Practical Enquiries, Comparative and Fair Test (PE). Making Systematic and Careful Observations (MSO), Gathering, Recording, Classifying and Presenting data (GRCD), Recording Finding (RF), Reporting on Findings, Draw Simple Conclusions and Make Predictions (CP), Identifying Differences, Similarities or Changes (IDSC), Using straightforward Scientific evidence to answer questions or to support their findings (UE)

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn						
<p>What makes me special? How have I changed?</p> <p>To know what I can do now and what I used to be able to do- crawl, babble</p>	<p>Prior Learning EYFS to know their body parts. To identify lizard, snake, pig, rat, parrot. tail, snout, beak. To know the body parts of a, cat, fish, dog and hamster -whiskers, claws, paws. To know penguins, polar bears</p> <p>My Brilliant Body Week 1 & 2</p> <p>To know my body parts - neck, arms, elbow, legs, knees, face, ear, eyes, hair, mouth, teeth</p> <p>Week 3</p> <p>To know the body parts that link to the senses – nose, hand, mouth/tongue, eyes, ears</p> <p>Seasons</p> <p>Across the autumn mornings observe the weather in the winter – weather chart</p> <p>Week 4</p> <p>To notice the changes in autumn times – leaves from the trees, conkers</p>	<p>Human Body</p> <p>Prior Learning Y1 My Brilliant Body EYFS How does your Garden grow – life cycles</p> <p>Week 1</p> <p>To know that humans and adults have off spring</p> <p>Week 2&3</p> <p>To know about how animals, grow – life cycles of butterflies, frogs, chicks</p> <p>Week 4</p> <p>To know what animals and humans need to survive - air, water, food</p> <p>Week 6</p> <p>To know the things that help us to be healthy</p>	<p>Human Body</p> <p>Prior Learning Y1 My Brilliant Body /Y2 Human Body</p> <p>Week 1</p> <p>To know that we have muscles help us move and keep us alive</p> <p>To know that we can control our voluntary muscles, but we do not control our involuntary muscles</p> <p>Week 2</p> <p>To know our bones help us to move and protect some parts of our bodies.</p> <p>Week 3</p> <p>To know that the brain is the centre of the nervous system</p> <p>Week 4</p> <p>To understand how the brain and mouth start the digestive process.</p> <p>Week 5</p> <p>To describe the simple functions of the basic parts of the digestive system in humans</p>	<p>Human Body</p> <p>Prior Learning Y1 My Brilliant Body /Y2 Human Body/ Y3 Human Body</p> <p>Week 1</p> <p>Cells are the building blocks of the human body and we need nutrition to keep our bodies working as they should.</p> <p>Week 2</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Week 3</p> <p>To know how food is digested and excreted.</p> <p>Week 4</p> <p>To know a healthy diet keeps our bodies healthy - Our diet should include lots of different types of food.</p> <p>Week 5</p> <p>To understand the essential vitamins and minerals needed in our bod - Many vitamins and minerals are found in our food.</p>	<p>Human Body</p> <p>Prior Learning Y1 My Brilliant Body /Y2 Human Body/ Y3 Human Body</p> <p>PSHE links</p> <p>Week 1</p> <p>To recognise the first stages of human growth; gestation, birth and infancy</p> <p>Week 2</p> <p>To know that the human body changes as it goes through puberty- puberty is the physical process by which the human changes from child to adult and can reproduce.</p> <p>Week 3</p> <p>To identify physical and mental changes to the human body that happen from adulthood to old age- As humans age, they begin to slow and sometimes problems like heart disease or arthritis occur.</p> <p>Week 4</p> <p>Humans and Animals have growth stages of different lengths.</p>	<p>Human Body</p> <p>Prior Learning Y1 My Brilliant Body /Y2 Human Body/ Y3 Human Body/Y5 Human body</p> <p>Week 1</p> <p>To understand that the heart pumps blood around the body- The left atrium and left ventricle carry oxygenated blood which is pumped around the body. The right atrium and right ventricle carry deoxygenated blood which is pumped out to the lungs</p> <p>Week 2</p> <p>To understand that blood vessels transport blood around the body</p> <p>Week 3</p> <p>To understand how the heart rate can speed up or slow down, depending on what the body is doing</p> <p>Week 4/5</p> <p>There are many things that can be varied and changed in an experiment, we call the things we can change variables</p>

What happens in Autumn time?

To know the name of the season Autumn and what happens- leaves change colour and the trees change. To know the animals that you might see at Autumn time – squirrel, hedgehog. Be able to describe the animal body parts – tails, spikes, snout Talk and discuss changes in the natural environment conkers, pine cones

Amazing Animals

Prior Learning: EYFS Pets, Cold Places

Week 1

To name the animals: goldfish, shark, trout frog, newt, salamander, toad robin, penguin, chicken, blackbird mouse, cow, dog, snake lizard tortoise

Week 2

To name the body parts of robin, penguin, chicken, blackbird mouse, cow, dog,

Week 3

To name the body parts of snake lizard, tortoise frog, newt, salamander

Week 4

To name the body parts of a fish and observe one with a magnifying glass

Week 5

To investigate if all birds are the same?

Week 6 & 7

To compare the bodies of the animals that we have learnt about.

Week 8

To name animals that are carnivores, herbivores and omnivores – groups animals based on what they eat.

Animals and their Needs

Prior Learning Y1 Amazing Animals Y2 Living things and their environment,

Week 1

To know the differences between living, dead and never been alive.

Week 2

To know what a habitat is.

Week 3

To know what a microhabitat is and what lives in one

Week 4

To learn about different habitats and the plants and animals that live in there.

Week 5

To know that a food chain describes 'who eats what' within a habitat

Rocks

Prior Learning: Y1 Materials

Week 1

To know there are many different types of rocks - Different rocks have names and can be sorted into groups according to their properties.

Week 2

To know that the three main groups of rock are called sedimentary, igneous and metamorphic

Week 3

To understand that some rocks allow water to pass through, but others do not. Rocks can have small air spaces in them allowing water to pass through them. If a rock type allows water to pass through it is called permeable rock.

Week 4

To know that some rocks contain fossils which can tell us about life millions of years ago.

Week 5

To recognise that soil is a mixture of small pieces of rock with dead organic matter.

Classification of Plants and Animals

Prior Learning: Y1 Taking care of the Earth Y1 Amazing Animals Y2 Living things and their environment,

Week 1

To understand that we can classify animals and plants- A vertebrate is an animal with a backbone. An invertebrate is an animal without a back bone.

Week 2

To know what amphibians are. I know that fish and amphibians are vertebrates

Week 3

To know what reptiles, birds and mammals are To know some of the key features of reptiles, birds and mammals

Week 4

To understand and describe key features of insects, arachnids and molluscs

Week 5

To know that plants can be classified into two main groups: flowering and non-flowering plants

Materials

Prior Learning: Y1/Y2 Materials Y4 Electricity / States of Matter and The Water Cycle

Week 1

To understand that materials can be grouped according to their properties and to know the definitions of some properties

Week 2

To know that thermal conductivity means heat can be transferred through a material.

Week 3

To understand that a solution is a mixture of a solid in a liquid where the solid has broken into parts too small to see

Week 4

To know there are methods for separating mixtures including solutions

Week 5

To understand that all changes are either reversible or irreversible.

Classification of Living Things.

Prior Learning: Y1 Taking care of the Earth Y1 Amazing Animals Y2 Living things and their environment, Y4 Classification of Living Things. Y5 Living Things

Week 1

To know there are five kingdoms of organisms - The five kingdoms are: plants, animals, fungus, protist and monera

Week 2

To know that plant an animal cells are different - There are two main types of cells: animal and plant cells Animal and plant cells are structured differently.

Week 3

To know that taxonomy is used to show how organisms are related to each other

Week 4

To know that vertebrates are classified into five groups: fish, amphibians, reptiles, birds and mammals.

Week 5

To understand that scientists divide invertebrates into groups including insects, arachnids and molluscs.

Disciplinarians Concepts: Questioning, predicting and planning, Observing and Recording Evidence, Interpreting, analysing and concluding, Reflecting and evaluating

Human and animals, Plants, Materials, Life and Living things, Forces, Energy, Earth Science

Spring

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>What is it like in the cold? To take part in winter walks To find out about the season Winter. To find out what happens to nature during Winter time, - environmental changes – ice, snow, cold, bright sun To know that the trees change. Winter To know about animals in winter time that hibernate in the winter - hedgehogs, bats To be able to talk about their body parts To investigate what happens to snow/ice in different conditions – asking simple question</p>	<p>Marvellous Materials Across the winter mornings observe the weather in the winter – weather chart</p> <p>Week 1 To notice the changes in winter time – frost on the ground, ice, deciduous trees lose their leaves in the winter</p> <p>Week 2 To know the materials wood and plastic and be able to sort them To know that plastic and wood can take many forms.</p> <p>Week 3 To know the materials glass, metal and rock and be able to sort them To know that the materials can take many forms.</p> <p>Week 4 & 5 To be able to know what something is made from and be able to describe it hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy</p>	<p>Materials Prior Learning: Y1 Materials</p> <p>Week 1 To know what things are made of</p> <p>Week 2/3 To know why we choose materials for different things</p> <p>Week 4 To know that different materials can be used for different things</p> <p>Week 5 To know how some material can change shape</p>	<p>Light Prior Learning: Y1 Materials Y2 Materials</p> <p>Week 1 To understand that we need light in order to see things - Light allows us to see things. Darkness is the absence of light The sun in the most important source of light for life on Earth</p> <p>Week 2 To know that transparent materials let light through and opaque materials block light from passing through</p> <p>Week 3 To know that mirrors can reflect light in different ways, depending on their shape</p> <p>Week 4 & 5 To know that our shadows change size throughout the day - A shadow is created when an object blocks the path of light.</p>	<p>Ecology Prior Learning: Y1 Taking care of the Earth Y1 Amazing Animals Y2 Living things and their environment,</p> <p>Week 1 To know that living things depend on their habitats - there are seven life processes which living things all have in common</p> <p>Week 2 To understand that living things are linked within a food chain.</p> <p>Week 3 To know that living things depend on each other in an ecosystem.</p> <p>Week 4 To understand that air pollution is a human threat to the environment.</p> <p>Week 5 To know how humans have changed the environment in our local area.</p> <p>Sound Prior Learning: Y1 My Brilliant Body – senses</p> <p>Week 1 To understand how sound is produced and</p>	<p>Forces Prior Learning: Y3 Forces</p> <p>Week 1 To know that force is either a push or a pull. Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>Week 2 To know that friction occurs when two objects move against each other.</p> <p>Week 3 To know objects with a large surface area will have greater air resistance than other objects with a small surface area - Air resistance, water resistance and friction, act between moving surfaces</p> <p>Week 4 Carry out an appropriate, scientific enquiry as planned last lesson to answer the question— How does surface area affect speed of fall in air (or water)?</p> <p>Week 5</p>	<p>Electricity Prior Learning: Y1 Materials, Y2 Materials Y5 Electricity</p> <p>Week 1 To know electricity flows in a circuit.</p> <p>Week 2 The brightness of a lamp or the volume of a buzzer depends on the number and voltage of cells used in a circuit.</p> <p>Week 3 Switches control the flow of electricity in a circuit.</p> <p>Week 4&5 To know that circuits can be used to make electrical toys.</p> <p>Light Prior Learning: Y1 Materials Y2 Materials Y3 Light</p> <p>Week 1 To know that light is a source of illumination that allows us to see</p> <p>Week 2 To know that light enters our eyes, allowing us to see.</p> <p>Week 3 To test the hypothesis that shadows are always the same shape as the object that made them.</p> <p>Week 4</p>

What happens in Spring time?

To know the season Spring To know some of the change at Spring time – blossom, daffodils, flowers

What would be a good pet?

To know the body parts of a cat, fish, dog and hamster whiskers, claws, paws, To be name a lizard, snake, Pig, rat, parrot Tail, snout, beak

Week 6
To investigate the best material for a dog's bed.

Week 7
To investigate would be the best material for a book shelf?

Taking Care of the Earth

Week 1
To know about recycling and how we can care for the environment – we can recycle paper, plastic, wood

Week 2
To know that litter is bad for the environment and animals

Week 3
To know that litter is bad for the environment and the sea – animals in the sea – dolphins, turtles

Week 4
To know how we can make a difference- turning off taps, recycling, walking, putting things in the bin,

Plants

Prior Learning:
EYFS How does your garden grow? Y1 Plants Y2 Plants

Week 1

To know that flowering plants all have roots, a stem or trunk, but not all flowering plants look the same

Week 2

To know some plants, need lots of water to grow, others only need a little. Some plants thrive in the shade, others need a lot of sunlight – cactus, sunflower

Week 3

Water moves from the roots of a plant, upwards via the stem - plants absorb water from the soil to help them to live and grow.

Week 4

To know that pollination is needed for flowering plants to produce. Flowering plants create seeds. Flowering plants can only produce seeds if pollen is transferred from the anther to the stigma.

Week 5

To understand that plants spread seeds in many different ways to reproduce - some plants rely on the wind to spread their seeds. some plants rely on animals to spread

how it travels- Sound is caused by a back and forth movement called vibration. Sound waves move out from a vibrating object in all directions.

Week 2

To know sound travels through the air.

Week 3

To know the difference between pitch and volume. Sound becomes quieter further from the source. Loud sounds have larger vibrations. Quiet sounds have smaller vibrations.

Week 4

To understand how the human voice makes different sounds- The larynx is in the throat and the muscles vibrate the vocal cords.

Week 5

Vibrations in sound waves travel through the different parts of the ear.

To know that simple machines help us to increase the force we apply to an object to help us move it - Simple machines, including levers, pulleys and gears, allow a smaller force to have a greater effect

Living Things

Prior Learning: Y1 Amazing Animals Y1 Plants Y2 Living things and their environment, Plants Y3 Plants Y4 Classification of Plants and Animals

Week 1

To recognise how plants and animals in our local area change throughout the year

Week 2

Mammals and amphibians have different life cycles.

Week 3

Insects and birds have different life cycles.

Week 4

To know that flowering plants need pollen to reproduce

Week 5

To know that Jane Goodall and David Attenborough have dedicated their lives to studying the natural world and communicating their findings.

To understand what light is made of and how a prism works.

Week 5

A periscope uses mirrors to reflect an image of something out of sight

their seeds

Summer

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>How does your garden grow? To name common flowers – sunflower, rose, daisy, tulips To know the animals that live in the garden. To know how we plant seeds and what happens To know about the life cycle of a butterfly. To identify different birds robin, blackbird, magpie, cuckoo To know the season Summer To know some of the change at summer time – hot, grow</p>	<p>Plants To know the four parts of a plant – roots, stem, leaves, and flower – observing the plants using magnifying glasses.</p> <p>Week 2 To name the wild plants daisy, dandelion, buttercup, nettles and find them in the local environment</p> <p>Week 3 To name the wild plants daisy, dandelion, buttercup, nettles and observe them</p> <p>Week 4 To name the garden plants sunflower, rose, tulip, rose and observe them</p> <p>Week 5 To name the trees: sycamore, birch, oak and pine tree and know the 4 main parts of a tree – trunk, branch, roots, leaves</p>	<p>Plants Prior Learning: EYFS How does your garden grow? Y1</p> <p>Week 1 To know there are many different kinds of plants</p> <p>Week 2 To know that seeds and bulbs grow into mature plants.</p> <p>Week 3/4 Healthy plants need light and water to grow</p> <p>Week 5 To understand that plants are grown for food</p>	<p>Forces</p> <p>Week 1 A force is a push or a pull. We can change the amount of force we use when we push and pull things.</p> <p>Week 2 Friction is the force between two surfaces. Rough surfaces create greater friction. Smooth surfaces create less friction</p> <p>Week 3 Magnets have an invisible push or pull force. When a magnet pushes an object away, we say it repels it. If a magnet pulls an object towards it, we say it attracts it.</p> <p>Week 4 To know that magnets have poles and a magnetic field.</p> <p>Week 5 To know that magnetic forces are not all the same strength. Larger magnets are often, but not always the strongest. The strength of magnetic force can be tested. Magnetic strength can be weakened over time.</p>	<p>States of Matter and The Water Cycle</p> <p>Week 1 To know that there are three main states of matter: solid, liquid and gas.</p> <p>Week 2 To know that evaporation occurs when water turns into gas.</p> <p>Week 3 To know that condensation occurs when water vapour turns into liquid water. (gas into water)</p> <p>Week 4 To know that precipitation returns water to the surface of the Earth.</p> <p>Week 6 To know how water changes state within the water cycle.</p> <p>Electricity Prior Learning: Y1 Materials, Y2 Materials</p> <p>Week 1 To know that electricity is useful, but it can also be very dangerous.</p> <p>Week 2 To construct an electrical circuit - An electrical circuit is a loop that allows electricity to travel around it. An electrical circuit must</p>	<p>Astronomy</p> <p>Week 1 To know that astronomers believe the universe began with the Big Bang, and that it is still expanding today</p> <p>Week 2 To know that gravity is a force between all objects, and the force is bigger if the object it bigger. We can only ‘feel’ gravity between us and the Earth.</p> <p>Week 3 To know the planets of our Solar System</p> <p>Week 4 To understand the Moon’s phases</p> <p>Week 5 To understand that the Solar System is just a small part of our universe</p> <p>Meteorology Prior Learning Y1 Seasons Taking Care of the Earth</p> <p>Week 1 To know the atmosphere protects Earth and enables life</p> <p>Week 2 To know that human actions can impact the Earth’s atmosphere</p> <p>Week 3 To know that the UK experiences six air masses affecting the weather</p> <p>Week 4</p>	<p>Reproduction Prior Learning Y1 My Brilliant Body /Y2 Human Body/ Y3 Human Body/Y5 Human body</p> <p>Week 1 To know that asexual reproduction does not require male and female cells.</p> <p>Week 2 To understand sexual reproduction in flowering plants</p> <p>Week 3 To know that many plants clothe their seeds with fruit.</p> <p>Week 4 To understand sexual reproduction in animals.</p> <p>Week 5 To know that different animals have different growth stages.</p> <p>Evolution Prior Learning Y1 My Brilliant Body /Y2 Human Body/ Y3 Human Body/Y5 Human body Y6 Reproduction</p> <p>Week 1 To know fossils are physical evidence of life from long ago</p> <p>Week 2 To know offspring are usually similar to, but not identical to their parent</p> <p>Week 3</p>

What happens in Summer time?

To know the season Summer
To know some of the change at summer time – hot, grow

Do you like to be beside the Seaside?

To know body parts of different sea creatures – fish, octopus, sharks, dolphins
To know about what effects the sea and the creatures litter, pollution – what we put in the sea

have wires and a battery. If a circuit is broken, electricity will not be able to flow around it.

Week 3

To know switches, open and close a circuit
Opening a circuit prevents electricity from flowing. Sometimes we need to stop electricity from flowing for safety reasons, switches help to do this.

Week 4

To know that the lightbulb was a very important invention.

Week 5

To identify materials that conduct electricity -
Materials that allow electricity to pass through them are conductors.

To know a weather front is a boundary where warm and cold air meet

Week 5

To know thunder and lightning is caused by electrical charge moving through the air.

To know living things can adapt to suit their environment

Week 4

To know who Charles Darwin was and what natural selection is

Week 5

To know who Alfred Wallace was and understand his contribution to the theory of evolution