

Science Curriculum Milestones

Year 1	Animals including humans	Identify sort and name a variety of common animals including: fish, amphibians, reptiles, birds and mammals
Year 1	Animals including humans	Identify sort and name a variety of common animals that are carnivores herbivores and omnivores
Year 1	Animals including humans	Identify similarities and differences between fish. Amphibians, reptiles, birds and mammals.
Year 1	Animals including humans	Identify name draw and label the basic parts of the human body and say which part of the body is associated with each sense
Year 1	Everyday materials	Distinguish between an object and the material from which it is made
Year 1	Everyday materials	Identify and name a variety of everyday materials including wood plastic glass metal water and rock
Year 1	Everyday materials	Describe the simple physical properties of a variety of everyday materials
Year 1	Everyday materials	Compare and group together a variety of everyday materials on the basis of their simple physical properties
Year 1	Plants	Identify and name a variety of common wild and garden plants including deciduous and evergreen trees
Year 1	Plants	Identify and describe the basic structure of a variety of common flowering plants including trees
Year 1	Plants	Identify similarities and differences between plants and the changes in them as they grow
Year 1	Seasonal changes	Observe changes in plants and animal behaviour across the 4 seasons
Year 1	Seasonal changes	Observe and describe weather associated with the seasons and how day length varies
Year 1	Working scientifically	Asking simple questions and recognising that they can be answered in different ways
Year 1	Working scientifically	Observing closely using simple equipment
Year 1	Working scientifically	Performing simple tests
Year 1	Working scientifically	Identifying and classifying
Year 1	Working scientifically	Using their observations and ideas to suggest answers to questions
Year 1	Working scientifically	Gathering and recording data to help in answering questions
Year 2	Animals including humans	Describe the main stages in the life cycle of at least 3 animals including humans
Year 2	Animals including humans	Find out about and describe the key needs of animals including humans for survival (water food and air)
Year 2	Animals including humans	Describe the importance for humans of exercise eating the right amounts of different types of food and hygiene

Year 2	Everyday materials	I can identify uses of everyday materials give some reasons why a particular material might be chosen to make an object.
Year 2	Everyday materials	I can identify how a variety of common materials can be changed (stretched bent snapped etc)
Year 2	Living things and their habitats	Explore and compare the differences between things that are living dead and things that have never been alive
Year 2	Living things and their habitats	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
Year 2	Living things and their habitats	Identify and name a variety of plants and animals in their habitats including microhabitats
Year 2	Living things and their habitats	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
Year 2	Plants	Observe and describe how seeds and bulbs grow into mature plants
Year 2	Plants	Investigate and describe how plants need water light and a suitable temperature to grow and stay healthy
Year 2	Plants	Describe the life-cycle of a flowering plant
Year 2	Working scientifically	Asking simple questions and recognising that they can be answered in different ways
Year 2	Working scientifically	Observing closely using simple equipment
Year 2	Working scientifically	Performing simple tests
Year 2	Working scientifically	Identifying and classifying
Year 2	Working scientifically	Using their observations and ideas to suggest answers to questions
Year 2	Working scientifically	Gathering and recording data to help in answering questions
Year 3	Animals including humans	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
Year 3	Animals including humans	Identify that humans and some other animals have skeletons and muscles for support protection and movement. To make comparisons between animals that do and don't have skeletons
Year 3	Animals including humans	Describe the main food groups - (Vitamins / Minerals Carbohydrates Fats Proteins Sugars)
Year 3	Forces	Describe changes in the motion of objects (getting faster slowing down changing direction)
Year 3	Forces	Sort materials into magnetic and non-magnetic by testing them with a magnet
Year 3	Forces	Understand that magnetic poles may attract or repel
Year 3	Forces	Know that some pushes and pulls require contact while others act at a distance

Year 3	Light	Recognise that they need light in order to see things and that dark is the absence of light and that there are a range of possible light sources
Year 3	Light	Notice that light is reflected from surfaces
Year 3	Light	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
Year 3	Light	Recognise that shadows are formed when the light from a light source is blocked by a solid object
Year 3	Light	Find patterns in the way that the size of shadows change
Year 3	Plants	Identify and describe the functions of different parts of flowering plants: roots stem/trunk leaves and flowers
Year 3	Plants	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
Year 3	Plants	Investigate the way in which water is transported within plants
Year 3	Plants	Explore the part that flowers play in the life cycle of flowering plants including pollination seed formation and seed dispersal
Year 3	Rocks	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
Year 3	Rocks	Describe in simple terms how fossils are formed when things that have lived are trapped within rock
Year 3	Rocks	Recognise that soils are made from rocks and organic matter
Year 3	Rocks	Give examples of living things that can be found in rocks
Year 3	Working scientifically	Asking relevant questions and using different types of scientific enquiries to answer them
Year 3	Working scientifically	Setting up simple practical enquiries comparative and fair tests
Year 3	Working scientifically	Making systematic and careful observations and where appropriate taking accurate measurements using standard units using a range of equipment including thermometers and data loggers
Year 3	Working scientifically	Gathering recording classifying and presenting data in a variety of ways to help in answering questions
Year 3	Working scientifically	Recording findings using simple scientific language drawings labelled diagrams keys bar charts and tables
Year 3	Working scientifically	Reporting on findings from enquiries including oral and written explanations displays or presentations of results and conclusions
Year 3	Working scientifically	Using results to draw simple conclusions make predictions for new values suggest improvements and raise further questions
Year 3	Working scientifically	Identifying differences similarities or changes related to simple scientific ideas and processes
Year 3	Working scientifically	Using straightforward scientific evidence to answer questions or to support their findings.
Year 4	Animals including humans	Describe the simple functions of the basic parts of the digestive system in humans

Year 4	Animals including humans	Identify the different types of teeth in humans and their simple functions
Year 4	Animals including humans	Construct and interpret a variety of food chains identifying producers predators and prey
Year 4	Animals including humans	Compare the teeth of herbivores and carnivores
Year 4	Animals including humans	Group animals into vertebrates and invertebrates
Year 4	Animals including humans	Identify the key features of fish amphibians reptiles birds and mammals
Year 4	Animals including humans	Sort invertebrates into snails / slugs worms spiders insects and others
Year 4	Electricity	Identify common appliances that run on electricity (mains or battery)
Year 4	Electricity	Construct a simple series electrical circuit identifying and naming its basic parts including cells wires bulbs switches and buzzers
Year 4	Electricity	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
Year 4	Electricity	Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
Year 4	Electricity	Recognise some common conductors and insulators and associate metals with being good conductors
Year 4	Electricity	Recognise potential hazards caused by electricity in and around the home. Know how to use electricity safety
Year 4	Living things and their habitats	Recognise that environments can change and that this can sometimes pose dangers to living things and identify that sometimes these changes are caused by humans
Year 4	Living things and their habitats	Use Keys to identify plants and animals in my local environment
Year 4	Living things and their habitats	Describe the impact that humans have had on my local environment and make suggestions for improvement
Year 4	Living things and their habitats	Develop my own keys for identifying living things in my local environment
Year 4	Plants	Sort plants into flowering and non-flowering
Year 4	Sound	Identify how sounds are made associating some of them with something vibrating
Year 4	Sound	Recognise that vibrations from sounds travel through a medium to the ear
Year 4	Sound	Find patterns between the pitch of a sound and features of the object that produced it
Year 4	Sound	Find patterns between the volume of a sound and the strength of the vibrations that produced it
Year 4	Sound	Recognise that sounds get fainter as the distance from the sound source increases
Year 4	States of matter	Compare and group materials together according to whether they are solids liquids or gases

Year 4	States of matter	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)
Year 4	States of matter	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature
Year 4	Working scientifically	Asking relevant questions and using different types of scientific enquiries to answer them
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Year 4	Working scientifically	Using straightforward scientific evidence to answer questions or to support their findings.
Year 5	Animals including humans	Describe the changes as humans develop through puberty and at other stages in life
Year 5	Animals including humans	Recognise that different mammals have different gestation periods and that these relate broadly to size
Year 5	Animals including humans	Describe differences in the life-cycles of a mammal an amphibian an insect and a bird.
Year 5	Earth and space	Describe the movement of the earth and other planets relative to the sun in the solar system and key features of some of these planets.
Year 5	Earth and space	Describe the movement of the moon relative to the earth
Year 5	Earth and space	Describe the sun earth and moon as approximately spherical bodies
Year 5	Earth and space	Use the idea of the earth's rotation and inclination to explain day and night seasons and eclipses and the apparent movement of the sun across the sky
Year 5	Forces	Explain that unsupported objects fall towards the earth because of the force of gravity acting between the earth and the falling object
Year 5	Forces	Identify the effects of air resistance water resistance and friction that act between moving surfaces and understand that these can be reduced or increased by design
Year 5	Forces	Recognise that some mechanisms including levers pulleys and gears allow a smaller force to have a greater effect

Year 5	Living things and their habitats	Describe how differences between plants enable them to survive in different conditions
Year 5	Plants	Describe sexual reproduction in plants
Year 5	Plants	Describe how some plants reproduce asexually
Year 5	Plants	Identify similarities and differences between the life cycles of different plants
Year 5	Plants	Explain how differences in plants enable them to survive in different conditions
Year 5	Properties and changes of materials	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
Year 5	Properties and changes of materials	Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution
Year 5	Properties and changes of materials	Use knowledge of solids liquids and gases to decide how mixtures might be separated including through filtering sieving and evaporating
Year 5	Properties and changes of materials	Give reasons based on evidence from comparative and fair tests for the particular uses of everyday materials including metals wood and plastic
Year 5	Properties and changes of materials	Demonstrate that dissolving mixing and changes of state are reversible changes
Year 5	Properties and changes of materials	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
Year 5	States of matter	Record observations to describe what happens when a solid is added to a liquid
Year 5	States of matter	Separate solids of different sizes and separate solids from liquids (including those in solution)
Year 5	States of matter	Use terms melting and dissolving accurately
Year 5	States of matter	Describe a chemical change as being one where a new material is made
Year 5	Working scientifically	Planning different types of scientific enquiries to answer questions including recognising and controlling variables where necessary
Year 5	Working scientifically	Taking measurements using a range of scientific equipment with increasing accuracy and precision taking repeat readings when appropriate
Year 5	Working scientifically	Recording data and results of increasing complexity using scientific diagrams and labels classification keys tables scatter graphs bar and line graphs
Year 5	Working scientifically	Using test results to make predictions to set up further comparative and fair tests
Year 5	Working scientifically	Reporting and presenting findings from enquiries including conclusions causal relationships and explanations of and a degree of trust in results in oral and written forms such as displays and other presentations

Year 5	Working scientifically	Identifying scientific evidence that has been used to support or refute ideas or arguments
Year 6	Animals including humans	Identify and name the main parts of the human circulatory system and describe the functions of the heart blood vessels and blood
Year 6	Animals including humans	Recognise the impact of diet exercise drugs and lifestyle on the way their bodies function
Year 6	Animals including humans	Describe the ways in which nutrients and water are transported within animals including humans
Year 6	Animals including humans	Describe the main features of each vertebrate group: fish amphibians reptiles birds and mammals
Year 6	Animals including humans	Describe the main features of each invertebrate group: worms. snails/slugs spiders insects and others
Year 6	Electricity	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
Year 6	Electricity	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
Year 6	Electricity	Use recognised symbols when representing a simple circuit in a diagram and build the circuit shown
Year 6	Evolution and inheritance	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago
Year 6	Evolution and inheritance	describe how variations between individuals of the same species occur and understand that these changes can be passed down
Year 6	Evolution and inheritance	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Year 6	Evolution and inheritance	Explain how fossils provide evidence for evolution
Year 6	Light	Recognise that light appears to travel in straight lines
Year 6	Light	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
Year 6	Light	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
Year 6	Light	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
Year 6	Light	I can investigate the phenomenon of light using rainbows refraction and coloured filters
Year 6	Working scientifically	Planning different types of scientific enquiries to answer questions including recognising and controlling variables where necessary
Year 6	Working scientifically	Taking measurements using a range of scientific equipment with increasing accuracy and precision taking repeat readings when appropriate

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