



Science – Year 5 & 6 - Target Memories

2025 – 2026 2027 - 2028						
Working scientifically: - planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - using test results to make predictions to set up further comparative and fair tests - 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 - identifying scientific evidence that has been used to support or refute ideas or arguments						
	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
National Curriculum coverage	Electricity Pupils should be taught to: - 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	Forces Pupils should be taught to: - 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	Animals, including humans Pupils should be taught to: describe the changes as humans develop to old age	Animals including humans Pupils should be taught to: - 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	Living things and their habitats Pupils should be taught to: - 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	Living things and their habitats Pupils should be taught to: - 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
Target Memories Year 5 & 6	<u>How can we make electricity work the way we want?</u> Circuit components such as lamps and buzzers only work in a complete circuit where electricity can flow from the cell and back again. Increasing the number of cells in a circuit increases the voltage. Circuit diagrams use standard symbols to represent components.	<u>What forces are at work all around us?</u> Gravity is a force that pulls objects towards the Earth. Air resistance, water resistance and friction are forces that slow objects down. Simple mechanism such as levers, pulleys and gears can change the size or direction of a force. The size of forces can be measured and compared.	<u>How do humans change as they grow?</u> Humans are mammals that grow and develop inside their mother's womb before being born as babies. Humans go through different stages of development: baby, toddler, child, adolescent, adult and older adult. During childhood, humans grow taller and develop new skills, knowledge and independence. Humans continue to change throughout adulthood and old age, including changes in strength, appearance and health. Humans grow at different rates, but growth and development follow a similar pattern throughout life. Scientists can collect, measure and analyse data, such as height and age, to identify patterns in human growth and development.	<u>How does blood keep us alive and healthy?</u> The human circulatory system consists of the heart, blood and blood vessels. The heart acts as a pump pushing blood through arteries, veins and capillaries to all parts of the body. Blood has important functions including transporting oxygen, nutrients and water, removing waste products, and helping protect the body from disease. Diet, exercise, drugs and lifestyle choices affect how well the circulatory system works. In animals the circulatory system transports nutrients and water to cell.	<u>How and why do plants reproduce and grow new life?</u> Flowering plants have different parts with specific functions. Pollinators transfer pollen between flowers and are important to plant lifecycles e.g. bees, butterflies and birds Pollinators can be harmed by habitat loss, pollination and pesticides. Plants reproduce in two different ways, sexually through flowers, pollen and seeds and asexually making clones from parts like bulbs or runners. Sexual reproduction involves pollination, fertilisation, germination and seed dispersal.	<u>What patterns link the life cycles of different animals?</u> All living things have lifecycles which include being born, hatched, growing, reproducing and dying. Mammals, birds, amphibians and insects have different life cycles. Amphibians undergo metamorphosis changing from a young form such as a tadpole into an adult. Animals reproduce to produce offspring which usually resemble their parents and grow into adults. Humans change as they grow from birth to old age.





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National Curriculum coverage	Properties and changes of materials Pupils should be taught to: • 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	Animals including humans Pupils should be taught to: • 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	Earth and space Pupils should be taught to: • 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 Pupils should be taught to: • 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	Living things and their habitats Pupils should be taught to: • 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	Evolution and inheritance Pupils should be taught to: • 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
Target Memories Year 5 & 6	<u>How can materials be changed and separated?</u> Classify everyday materials by their different properties such as hardness, solubility, transparency, and conductivity (electrical and thermal) and magnetism. Reversible changes can be undone. Irreversible changes cannot be reversed. Some changes create new materials and are usually not reversible. Solids, liquids, and gases have different properties and structures. Some materials dissolve in liquids to form a solution.	<u>What helps us stay healthy throughout life?</u> A balanced diet provide the nutrients the body needs for energy growth and staying healthy. Regular exercise helps keep the heart muscles and lungs strong. Some drugs can help the body when used correctly, but can harm body functions and health. Lifestyle choices such as sleep, hygiene and screen time affect how well the body works and how we feel each day. Healthy choices support the bodies systems.	<u>How do the Earth, Sun and Moon affect each other?</u> The moon is a satellite that orbits the earth. The Earth and all other planets in our solar system orbit the sun (which is a star). The Earth, Sun and Moon are approximately spherical bodies. The Earth rotates on its axis, and this rotation causes day and night. The position of the earth on it's orbit of the sun controls our seasons and length of day.	<u>How does light travel and help us see?</u> Light travels in straight lines We see objects because light enters our eyes Objects that do not make their own light are seen because they reflect light Light travels from the source to an object and then to our eyes Shadows have the same shape as the object	<u>Why do scientists group and classify living things?</u> Living things can be grouped by their observable characteristics. The three broad groups of living things are microorganisms, plants, and animals. Animals are classified as vertebrates or invertebrates. Plants and animals are classified based on specific characteristics. Scientists like Carl Linnaeus developed classification systems to organise living things and show similarities and differences between them.	<u>How have living things changed over time?</u> Living things have changed over millions of years, and fossils give us evidence of what plants and animals lived on Earth long ago. Fossils are the remains or imprints of living things that have been preserved in rock for millions of years. Living things produce offspring of the same kind, but the offspring are not exactly the same as their parents. Differences between offspring are called variation, and these differences can help living things survive in different environments. Plants and animals have adaptations—special features or behaviours—that help them survive where they live. Over a long time, helpful adaptations can lead to evolution, where a species slowly changes to suit its environment better.

