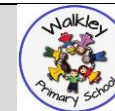


SCIENCE: CRUCIAL LEARNING



Year 1	Animals, including humans	1. Know that animals can be classified as fish, amphibians, reptiles, birds and mammals. 2. Know that animals can be carnivores, herbivores and omnivores. 3. Know that animals are structured in different ways.
Year 1	Everyday materials	1. Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. 2. Describe and compare simple physical properties of a variety of everyday materials. 3. Group together a variety of everyday materials based on their simple physical properties. 4. Be able to ask simple scientific questions.
Year 1	Plants (intro to biomes)	1. Identify and name a variety of common wild and garden plants. 2. Recognise that plants can be deciduous and evergreen. 3. Identify and describe the basic structure of a variety of common flowering plants, including trees. 4. Be able to observe closely, using simple equipment.
Year 1	Seasonal changes	1. Observe changes across the four seasons. 2. Observe and describe the weather associated with the seasons. 3. Observe and describe how day length varies according to the seasons. 4. Gather and record data.
Year 2	Living things and their habitats	1. Recognise that living things die, and that some things have never been alive. 2. Identify that most living things live in suitable habitats. 3. Describe how different habitats provide for the basic needs of different kinds of animals and plants. 4. Identify and name a variety of plants and animals in habitats. 5. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain. 6. Be able to identify and classify based on information.
Year 2	Animals, including humans	1. Know that animals have offspring which grow into adults. 2. Describe the basic needs for animals, including humans, for survival. 3. Describe the importance for humans of exercise, a balanced diet and hygiene. 4. Ask simple questions and recognising that they can answered in different ways.

Year 2	Use of everyday materials	1. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard. 2. Know how the shape of solid objects can be changed by squashing, bending, twisting and stretching. 3. Carry out simple tests.
Year 2	Plants	1. Describe how seeds and bulbs grow into mature plants. 2. Know that plants need water, light and suitable temperature to grow and stay healthy. 3. Use their observations and ideas to suggest answers to questions.
Year 3	Forces and Magnets	1. Know that the surface can affect how things move. 2. Know that magnets have two poles and they can attract or repel each other. 3. Know magnets attract some materials and not others. 4. Be able to ask relevant scientific questions. 5. Set up a simple practical enquiry.
Year 3	Light	1. Know that we need to see things and that darkness is the absence of light. 2. Know that light is reflected from surfaces. 3. Know that light from the Sun can be dangerous. 4. Know that shadows are formed when a light source is blocked by a solid object, and that the size of the shadow can change. 5. Record findings from a scientific test. 6. Report on findings from a scientific test.
Year 3	Plants	1. Be able to identify and describe the functions of different parts of flowering plants; roots, stem/trunk, leaves and flowers. 2. Know how to explore the requirements of plants for life and growth; air, light, water, soil/nutrients and room to grow. 3. Know how water is transported within plants. 4. Know the parts that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 5. Make systematic and careful observations.
Year 3	Animals including humans	1. Know that animals, including humans, cannot make their own food and get nutrition from what they eat. 2. Know that humans, and some other animals, have skeletons and muscles for support, protection and movement. 3. Use straightforward evidence to answer scientific questions.
Year 3	Rocks and soils	1. Be able to compare and group different kinds of rocks, based on appearance and simple physical properties. 2. Be able to describe in simple terms how fossils are formed.

		3. Know that soils are made from rocks and organic matter. 4. Gather and record data.
Year 4	States of matter	1. Be able to compare and group materials together according to whether they are solids, liquids or gases. 2. Know that some materials change state when they are heated or cooled. 3. Identify the part played by evaporation and condensation in the water cycle. 4. Make a prediction based on scientific understanding. 5. Be able to set up a simple practical enquiry.
Year 4	Sound	1. Know how sounds are made, associating some of them with something vibrating. 2. Know that vibrations from sounds travel through a medium to the ear. 3. Find patterns between the pitch and volume of a sound and features of the object that produced it. 4. Identify differences, similarities or changes related to simple scientific ideas. 5. Use results to draw simple conclusions and suggest improvements.
Year 4	Electricity	1. Know common appliances that run on electricity. 2. Be able to build a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 3. Know some common conductors and insulators and associate metals with being good conductors. 4. Be able to set up a simple practical enquiry.
Year 4	Animals including humans	1. Be able to describe the simple functions of the basic parts of the digestive system in humans. 2. Know the different types of teeth in humans and their simple functions. 3. Be able to construct and interpret a variety of food chains, identifying producers, predators and prey. 4. Use straightforward scientific evidence to support findings.
Year 4	Living things and their habitats	1. Know that living things can be grouped in a variety of ways. 2. Be able to use classification keys to help group and identify a variety of living things. 3. Know that environments can change, and sometimes this can be dangerous to living things. 4. Be able to classify information gathered and use it to answer a question.
Year 5	Forces	1. Know that unsupported objects fall towards the Earth because of the force of gravity. 2. Know the effects of air and water resistance and friction that act between moving surfaces. 3. Know that some mechanisms, including levers, pulleys and gears, allow a small force to have a greater effect. 4. Be able to plan a fair test. 5. Be able to take scientific measurements. 6. Be able to record results in tables.

Year 5	Properties of materials	1. Be able to compare and group together everyday materials based on their properties, including hardness, solubility, transparency, conductivity and response to magnets. 2. Know that some materials with dissolve in liquid to form a solution and how to recover a substance from a solution. 3. Use knowledge of solids, liquids and gases to decide how mixtures might be separated. 4. Know that dissolving, mixing and changes of state are reversible changes. 5. Know that some changes are not reversible (for example burning). 6. Be able to report and present findings from enquiries.
Year 5	Living things and their habitats	1. Be able to describe the difference in the life cycles of a mammal, an amphibian, an insect and a bird. 2. Be able to describe the life processes of reproduction in some plants and animals. 3. Understand that observations have been used to develop scientific ideas.
Year 5	Animal, including humans	1. Know some changes as humans develop to old age. 2. Understand that data is used to support scientific ideas.
Year 5	Earth and space	1. Be able to describe the movement of the Earth and other planets relative to the Sun in the solar system. 2. Know how the Moon moves relative to the Earth. 3. Know that the Sun, Earth and Moon are approximately spherical bodies. 4. Be able to explain day and night in terms of the Earth's rotation. 5. Understand that scientific evidence has been used to support and refute ideas.
Year 6	Electricity	1. Be able to explain the brightness of a lamp or the volume of a buzzer with the number and voltage of cells in a circuit. 2. Be able to 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. 3. Be able to use recognised symbols when representing a simple circuit in a diagram. 4. Be able to use test results to make predictions to set up further comparative and fair tests. 5. Be able to report and present findings, including conclusions, causal relationships and explanations.
Year 6	Light	1. Know that light appears to travel in straight lines. 2. Know that we see things because light travels from a light source to our eyes, or from light sources to objects and then our eyes. 3. Be able to plan a scientific enquiry to answer a question.

Year 6	Animals including humans	1. Be able to identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood. 2. Know the impact of diet, exercise, drugs and lifestyle on the way our bodies function. 3. Know the ways in which nutrients and water are transported within animals including humans. 4. Be able to identify scientific evidence that has been used to support ideas or arguments.
Year 6	Living things and their habitats	1. Know how living things are classified into broad groups, including microorganisms, plants and animals. 2. Be able to give reasons for classifying plants and animals based on specific characteristics. 3. Be able to identify scientific evidence that has been used to support or refute ideas or arguments.
Year 6	Evolution and inheritance	1. Know that living things change over time and fossils provide evidence of living things that lived on the Earth millions of years ago. 2. Know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. 3. Know how animals and plants are adapted to their environment and that adaptation may lead to evolution. 4. Be able to identify scientific evidence that has been used to support or refute ideas or arguments.