Year 6 Knowledge progression	Previous objectives taught…	Children working at national standard…
Working Scientifically	• Asking simple questions and recognising that they can be answered in different ways. (Year1/2) • Observing closely, using simple equipment.(Year1/2) • Performing simple tests.(Year1/2) • Identifying and classifying.(Year1/2) • Using their observations and ideas to suggest answers to questions.(Year1/2) • Gathering and recording data to help in answering questions.(Year1/2) • Asking relevant questions and using different types of scientific enquiries to answer them. (Year3/4) • Setting up simple practical enquiries, comparative and fair tests. (Year3/4) • Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. (Year3/4) • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. (Year3/4) • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. (Year3/4) • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. (Year3/4) • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. (Year3) • Identifying differences, similarities or changes related to simple scientific ideas and processes. (Year3/4) • Using straightforward scientific evidence to answer questions or to support their findings. (Year3/4) • Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. (Year 5) • Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. (Year 5) • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. (Year 5) • Using test results to make predictions to set up further comparative and fair tests. (Year 5)	**Same objectives as Year 5 however some children should be showing greater depth In some areas of 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 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.

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Animals, including humans	• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals including pets). (Year 1) • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Year 1) • Notice that animals, including humans, have offspring which grow into adults. (Year 2) • Find out about and describe the basic needs of animals, including humans, for survival (water, food, air). (Year 2) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Year 2) • 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) • Identify that humans and some other animals have skeletons and muscles for support, protection and movement. (Year 3) • Describe the simple functions of the basic parts of the digestive system in humans. (Year 4) • Identify the different types of teeth in humans and their simple functions. (Year 4) • Construct and interpret a variety of food chains, identifying producers, predators and prey. (Year 4) • Describe the changes as humans develop to old age. (Year 5)	• Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood (including the pulse and clotting). • 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.
Evolution and inheritance	• Describe in simple terms how fossils are formed when things that have lived are trapped within rock. (Year 3)	• 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.
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) • Identify and name a variety of plants and animals in their habitats, including micro-habitats. (Year 2) • 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	• 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.

	each other. (Year 2) • 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) • Recognise that living things can be grouped in a variety of ways. (Year 4) • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Year 4) • Recognise that environments can change constantly changing and that this can sometimes pose dangers to specific habitats. (Year 4) • Describe the difference in the life cycles of a mammal, an amphibian an insect and a bird. (Year 5) • Describe the life process of reproduction in some plants and animals. (Year 5)	
Light	• Recognise that they need light in order to see things and that dark is the absence of light. (Year 3) • Notice that light is reflected from surfaces. (Year 3) • Recognise that shadows are formed when a light source is blocked by a solid object. (Year 3) • Find patterns in the way that the sizes of shadows change. (Year 3) • Recognise that light from the Sun can be dangerous and that there are ways to protect our eyes. (Year 3)	• 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.
Electricity	• Identify common appliances that run on electricity. (Year 4) • Construct a simple series electrical circuit identifying and naming the basic parts of a simple electrical circuit, including cells, wires, bulbs, switches and buzzers. (Year 4) • 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) • 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) • Recognise some common conductors and insulators, and associate metals with being good conductors. (Year 4)	• 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.