Year 5 knowledge progression	**Previous objectives taught…**	Children working at national standard…
	• 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. • 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.
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)	• Describe the changes as humans develop to old age.

	• 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)	
Living things in 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 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. • Describe the life process of reproduction in some plants and animals.
Properties and changes of materials	• Distinguish between an object and the material from which it is made. (Year 1) • Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Year 1) • Describe the simple physical properties of a variety of everyday materials. (Year 1) • Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Year 1) • Identify and compare the suitability of a variety of everyday materials, including wood,	• Compare and group together everyday materials based on evidence from comparative and fair tests, 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.

	metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Year 2) • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Year 2) • Compare and group materials together, according to whether they are solids, liquids or gases. (Year 4) • 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) • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. (Year 4)	• 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, include changes associated with burning and the action of acid on bicarbonate of soda.
Earth and space		• 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.
Forces	• Compare how things move on different surfaces. (Year 3) • Notice that some forces need contact between two objects but magnetic forces act at a distance. (Year 3) • Observe how magnets attract or repel each other and attract some materials and not others. (Year 3) • Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. (Year 3) • Describe magnets as having two poles. (Year 3) • Predict whether two magnets will attract or repel each other, depending on which poles are facing. (Year 3)	• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • Identify the effect 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.