Science Year 4	
Working Scientifically	• Ask relevant questions and using different types of scientific enquiries to answer them • Set up simple, practical enquiries, comparative and fair tests • Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Gather, record classify and present data in a variety of ways to help in answering questions • Record findings using simple scientific language, drawings labelled diagrams, keys, bar charts, and tables • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • Identify differences, similarities or changes related to simple scientific ideas and processes • Use straightforward scientific evidence to answer questions or to support their findings
Living things and their habitats	• Recognise that living things can be grouped in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Recognise that environments can change and that this can sometimes pose dangers to living things
Animals, inc. Humans	• Identify that animals, inc. humans needs the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • Identify that humans and some other animals have skeletons and muscles for support, protection and movement Describe the simple functions of the basic parts of the digestive system in humans • Identify the different types of teeth in humans and their simple functions • Construct and interpret a variety of food chains, identifying producers, predators and prey
States of Matter	• Compare and group materials together, according to whether they are solids, liquids or gases

	• 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 (ˈC) • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature
Sound	• Identify how sounds are made, associating some of them with something vibrating • Recognise that vibrations from sounds travel through a medium to the ear • Find patterns between the pitch of a sound and features of the object that produced it • Find patterns between the volume of a sound and the strength of the vibrations that produced it • Recognise that sounds get fainter as the distance from the sound source increases
Electricity	• Identify common appliances that run on electricity • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • 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 • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • Recognise some common conductors and insulators, and associate metals with being good conductors
Scientific Vocabulary	Related Vocabulary
Greater Depth:	• CT 2 & C3- Pupils **are able** to discuss different scientific viewpoints and understand previously held assumptions when they form their own view point. **Pupils reconsider the validity of these perspectives based on previously held assumptions (supported by teacher)** • CT2 – Children are able to set up comparative fair tests to be open to alternative perspectives • CT 4 - Children are able to make **scientific connections when undertaking comparative tests** using variation theories –Continuing to use what is is/what it is not, **and use** examples and non-examples in independent activity partner times. With peers they justify connections made **and continue to use pupil formulated scientific enquiries to prove these** • C1 - **They independently** create scientific questions to pursue and **are starting to infer and make**

	deductions to support their inquisitive thoughts (teacher supported) • C2 - **They collaborate** with peers/ **small group** to formulate next steps/ break down tasks into parts **and adapt/change work with a critical eye, potentially changing the direction of learning if required (teacher modelled). This uses a range of evidence and considers the most effective choice in resources required** • CO 2 - Pupils are independently (in pairs/**groups**) using internalised modelled peer tutoring methods (pupil reciprocal teaching) • CO 3 - Pupils are further developing the ability to critique themselves as a scientific learner, in pairs or small groups **using an internalised format** • CO 6 - Children feedback their scientific learning and understanding (following a teacher model) in a variety of group roles within a 'jigsaw classroom' format. **They are beginning to critique their performance as a collective.** • CT1 – Children further develop their ability to summarise their learning in a succinct way (**peer mapped** thought process) • C6 – Children connect learning linking to wider global issues (equitable, sustainable and inclusion topics) and are starting to **collaboratively apply** in learning • CT3 – Pupils are starting to rank **scientific ideas** within **a group, starting to articulate their thought process to others** • C4 – Starting to connect patterns and scientific characteristics to build their own **new well-developed ideas** • C6 – Children are able to apply connected learning ideas to equitable/sustainability topics, with peer/group support • CO4 – Developing perseverance noting scientific mistakes as learning opportunities not jumping to a quick solution and starting to justify their thoughts on this. Pupils like to learn from mistakes and have self-belief even if all information is not clear. **They understand how this is shaping the learning/end goal** • CO5 – Pupils set goals for scientific enquires/investigations using modelled stem sentences and summarise these with a partner • CT1 – Pupils summarise scientific observations and suggest answers to scientific questions, creating their own mapped thought process **to support their own learning**

Topic/Novel Link:	

Defined End Point
- Ask their own questions with increased confidence about what they observe and make decisions about which types of scientific enquiry are the best ways of answering them - Draw conclusions and use scientific language effectively in most explanations