SCIENCE INTENT / COHERENCE / PROGRESSION

INTENT Our teaching of science should enable pupils to…	Develop understanding of the nature, processes and methods of science through different types of science enquiries to answer scientific questions about the world around them.		
NOTES	Scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data.) In KS1, pupils are taught to ask questions, predict, identify resources and steps, describe and explain events. In KS2, pupils are taught to explain predictions, identify fairness and variables, and conclude.		
	Method of enquiry	Context	Questions to be asked
EYFS ELG PSED (managing self): • Manage their own basic hygiene and personal needs including dressing, going to the toilet and understanding the importance of healthy food choices	Identifying, classifying and grouping foods, testing our senses Testing the effects of exercise on our body	All about me – my body and how to stay healthy, exercising and my senses	Which food types do you have on your plate? What can you see, hear, smell, taste, feel? What has happened to your heart beat? How do you feel before/after exercise?

ELG UtW (Natural World) : • Explore the natural world around them, making observations and drawing pictures of animals and plants • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand some important processes & changes in the natural world around them, including the seasons and changing states of matter	Observations Identifying Classifying Grouping Collecting data Making predictions Secondary research Testing Suggesting changes to methods	Hibernation Signs of autumn / winter / spring / summer Plants Lifecycles of frogs, caterpillars, chicks, sunflowers, pumpkins Daily weather chart All around the world topic for contrasting environments Freezing and melting	What can you see, hear, smell, taste, feel? What has changed? How has it changed? What's happening? What do you think will happen next? Why do you think that? Can you tell me about…? How does that work? What's the same? What's different? How could we improve…?
<u>Year 1</u>	*Identifying, classifying and grouping.*	Body parts + linking with senses. Animals including humans Seasonal changes	*What can I taste, hear and smell?* *Is it living, non-living or did it never live?* *How can I tell that the seasons are changing?*
	Comparative and fair testing (controlled investigation)	Seasonal changes Everyday materials	*When does the sun rise and set? What melts in the sun?* *Which surface will the toy car travel the furthest on?*

		Animals including humans	Which slice of bread will grow the most mould?
	Pattern seeking	Everyday materials Seasonal Changes	Which surface will the toy car travel the furthest on? When does the sun rise and set?
	Researching using secondary sources.	Plants	How are plants different?
	Observing over time.	Animal classification Seasonal changes Plants	Which slice of bread will grow the most mould? How can I tell that the seasons are changing? What melts in the sun? How do plants change over time?
Year 2	Identifying, classifying and grouping	Material classification / changes / comparison	Which material would work best as a hanky?
	Pattern seeking, observing over time	Seasonal changes	Does it rain more in Winter or in Summer?
	Pattern seeking, Comparative and fair testing Observing over time	Animals including humans	Do people get faster as they get older? How will different drinks affect our teeth?
	Observing over time Comparative and fair testing	Plants	What do plants need to grow?
	Research using secondary sources	Different habitats / dependency Animals in local environment	How do habitats meet the needs of different animals?
Year 3	Classifying and grouping Researching using secondary sources	Rocks and Soils	How permeable are rocks? How hard are rocks?

	Comparative and fair testing		
	Comparative and fair testing.	Magnets	How strong are magnets? Which materials are magnetic?
	Comparative and fair testing.	Animals including humans.	Which liquids are best for our teeth? Investigating the bones in our skeleton.
	Observing over time. Comparative and fair testing.	Plants.	How do different temperatures affect transpiration?
	Observing over time.	Light and Shadows.	How do our shadows change if we stand in the same place throughout the day?
Year 4	Researching using secondary sources	Sound Living things and their Habitats	How do sounds change as they travel? Which material is the best at absorbing sound and being a sound proofer? How are changing environments affecting plants and animals that live there?
	Comparative and fair testing	Electricity States of Matter	Do different materials affect the light/buzzer and become a conductor or insulator? Which fizzy drink is the fizziest?
	Pattern seeking	Animals including Humans – digestion and teeth	How does toothpaste help fight decay? How do you make an effective toothpaste?
	Researching using secondary sources/Observing over time	Animals including Humans – humans and food chains	Why are plants important in the food chain? What happens when the predator becomes the prey?

	Identifying, classifying and grouping		
Year 5	Comparative and fair testing	Properties and changes of materials Light Light	Which is the best insulating material? Which kitchen roll is the best? Which biscuit is the best dunker? What colour is light? Investigating the colour spectrum. How do shadows change with distance?
	Observing over time/pattern seeking/Researching using secondary sources	Earth and Space	Does the moon change shape?
	Identifying, classifying and grouping. Comparative and fair testing	Living things and their habitats	Do we have more daisies or dandelions on the school field?
Year 6	Pattern Seeking, identifying, classifying and grouping	Evolution and Inheritance	Colourful caterpillars. Which caterpillars will thrive best in the woods?
	Observing over time Comparative and fair testing	Evolution and Inheritance/ Living things and their habitats	Which conditions allow food to last the longest? Microbes experiments- yeast and sugar & mouldy bread.
	Pattern seeking, researching using secondary sources	Animals including humans	Why is blood viscose? Blood components experiment Which materials/shape float the best? Buoyancy- Torak's canoe
	Observing over time	Animals including humans	How quickly does my heart rate return to normal after exercise? Pulse rate experiment

	Comparative and fair testing	Electricity	Voltage and brightness How positioning affects circuits Designing their own enquiry