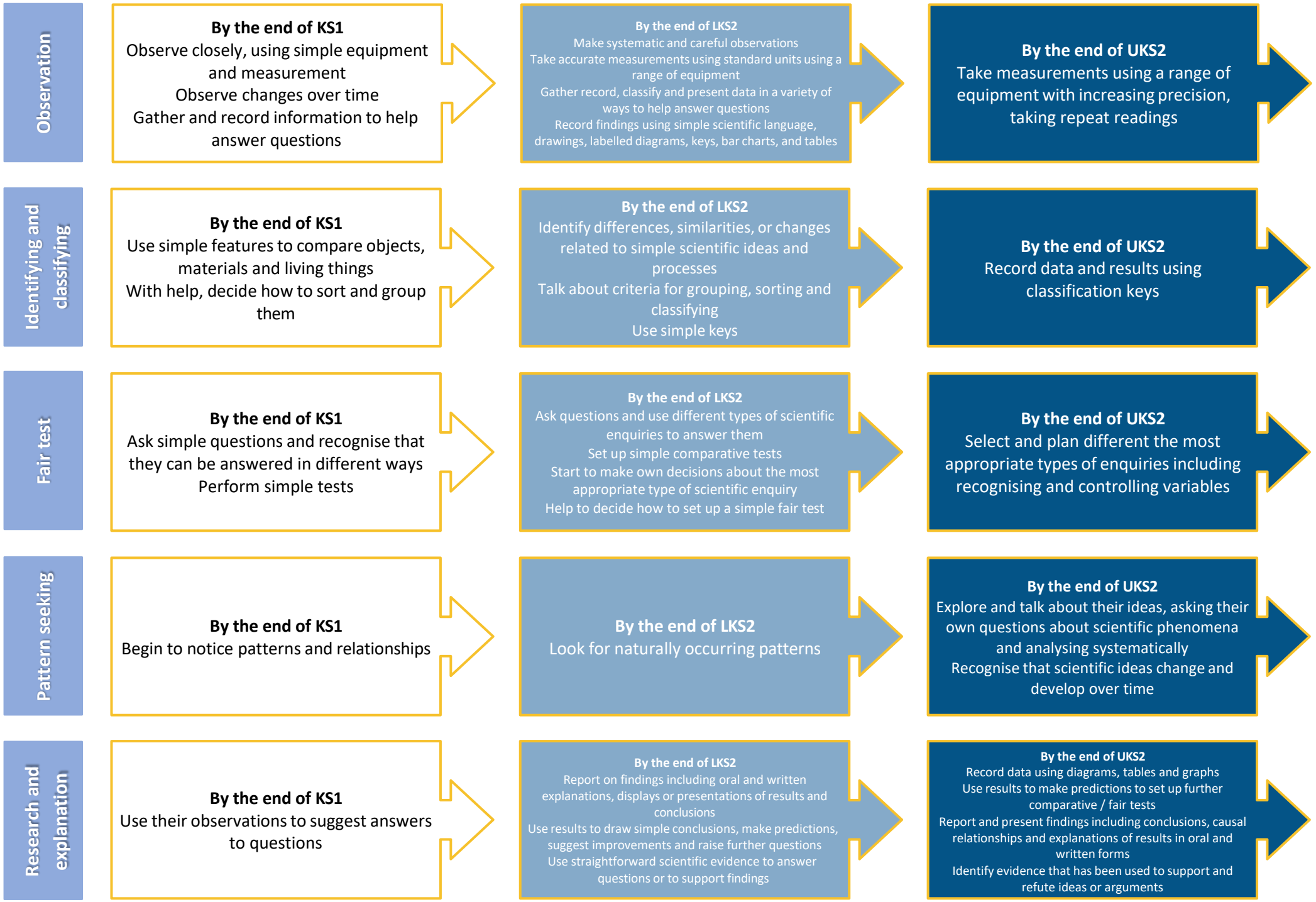
Science overview

EYFS - All year round through UTW & EAD areas

Nursery	Reception
Topics covered: plants, animals and humans (themselves & family)- through observation, stories and discussion **EYFS Coherence: Life; Material & Forces** Age 3-4: • Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary • Explore how things work • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.	Topics covered: plants, animals and humans (themselves & family) **EYFS Coherence: Life & Material** • Explore the natural world around them • Recognise some environments that are different from the one in which they live. • Describe what they see, hear and feel whilst outside. • Understand the effect of changing seasons on the natural world around them. **ELG: The Natural World** Children at the expected level of development will: • 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 and changes in the natural world around them, including the seasons and changing states of matter.

	Autumn					Spring					Summer				
Year 1	**Everyday materials** Writing to inform: What are objects made from & why?					**Plants** Fact file of plants and trees in the school grounds					**Animals including humans** Fact file of common animals including what they eat				
Scientific Rigour	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation
	Seasonal Changes Non-fiction report to Reception: what happens in the world as the seasons change?														
Scientific Rigour	Observation		Identifying & classifying			Fair Test		Pattern Seeking			Research and Explanation				

Year 2	**Everyday materials** Writing to inform: what are different materials used for and why?					**Plants and animals including humans** Annotated diagram of how a young animal grows into a mature animal including what they need to grow. Annotated diagram of how seeds grow into mature plants including what they need to grow.					**Living things and their habitats** Fact file of an animal and its habitat				
Rigour	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation
Year 3	**Forces & magnets** Comparative test: are all magnets the same strength? (Including explanation of results)					**Plants and animals including humans** Writing to inform: which animals have skeletons and what are they for?					**Rocks & light** Comparative test: what happens to shadows when distance between the light source and the object change? Writing to inform: different types of rocks				
Rigour	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation
Year 4	**Sound & electricity** Comparative test: Which materials are the best sound insulators? (Including explanation of results) Writing to explain: how do switches work and what materials should they be made of?					**Animals including humans & their habitats** Make a simple key to identify local plants and animals Writing to explain: how does the digestive system work?					**States of matter** Comparative test: how long does it take for different solids to melt?				
Rigour	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation
Year 5	**Earth, space & forces** Non-fiction report to year 4 (Moon/planet/air resistance)					**Animals including humans & their habitats** Writing to inform: what happens as we age?					**Properties & changes of materials** Fair test: What happens to the amount of evaporation if we change a variable?				
Rigour	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation
Year 6	**Light & electricity** Writing to explain: How does a periscope work? Fair test: What will happen to the brightness of the bulb if we change the length of the wires?					**Animals including humans & their habitats** Research unfamiliar animals and plants from a broad range of other habitats and create a key showing where they belong in the classification system Writing to explain: how does the heart work?					**Evolution & Inheritance** Writing to explain: how has [insert animal] adapted to its environment?				
Rigour	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation	Observation	Identifying & classifying	Fair Test	Pattern Seeking	Research & Explanation


Observation
By the end of KS1
Observe closely, using simple equipment and measurement
Observe changes over time
Gather and record information to help answer questions
By the end of LKS2
Make systematic and careful observations
Take accurate measurements using standard units using a range of equipment
Gather record, classify and present data in a variety of ways to help answer questions
Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
By the end of UKS2
Take measurements using a range of equipment with increasing precision, taking repeat readings
Identifying and classifying
By the end of KS1
Use simple features to compare objects, materials and living things
With help, decide how to sort and group them
By the end of LKS2
Identify differences, similarities, or changes related to simple scientific ideas and processes
Talk about criteria for grouping, sorting and classifying
Use simple keys
By the end of UKS2
Record data and results using classification keys
Fair test
By the end of KS1
Ask simple questions and recognise that they can be answered in different ways
Perform simple tests
By the end of LKS2
Ask questions and use different types of scientific enquiries to answer them
Set up simple comparative tests
Start to make own decisions about the most appropriate type of scientific enquiry
Help to decide how to set up a simple fair test
By the end of UKS2
Select and plan different the most appropriate types of enquiries including recognising and controlling variables
Pattern seeking
By the end of KS1
Begin to notice patterns and relationships
By the end of LKS2
Look for naturally occurring patterns
By the end of UKS2
Explore and talk about their ideas, asking their own questions about scientific phenomena and analysing systematically
Recognise that scientific ideas change and develop over time
Research and explanation
By the end of KS1
Use their observations to suggest answers to questions
By the end of LKS2
Report on findings including oral and written explanations, displays or presentations of results and conclusions
Use results to draw simple conclusions, make predictions, suggest improvements and raise further questions
Use straightforward scientific evidence to answer questions or to support findings
By the end of UKS2
Record data using diagrams, tables and graphs
Use results to make predictions to set up further comparative / fair tests
Report and present findings including conclusions, causal relationships and explanations of results in oral and written forms
Identify evidence that has been used to support and refute ideas or arguments