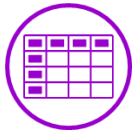
Science DISCIPLINARY knowledge progression overview

Disciplinary knowledge is the knowledge that supports pupils to embed their substantive knowledge by asking questions, making predictions, performing enquiries, making observations, gathering and recording data, measuring, interpreting data, drawing conclusions, presenting data and evaluating.

At Hollybrook our children know how to…

Disciplines	EYFS	KS1	Lower KS2 (Y3 and 4)	Upper KS2 (Y5 and 6)
 Ask questions	Begin to raise questions about the world around them.	Ask questions that include scientific language and begin to recognise that they can be answered in different ways.	Ask relevant scientific questions and use different types of scientific enquiry to answer them. Begin to recognise how and when secondary sources might help answer questions that cannot be answered through practical investigation	Use scientific experiences to explore ideas and raise different types of questions. Recognise which secondary sources will be most useful to research their ideas and begin to separate fact from opinion.
 Make predictions	Think about a sensible possible answer or solution, using *I think* or *I know*.	Children consider in advance, what might happen or what they might find out from an investigation.	Children consider in advance, what might happen or what they might find out from an investigation, using what they already understand.	Children consider in advance, what might happen or what they might find out from an investigation, using what they already understand and give examples to support their prediction.
 Perform enquiries	Perform simple tests with a purpose.	Set up simple practical enquiries, comparative and fair tests.	Plan different types of scientific enquiries to answer questions and begin to recognising variables in terms of what they should keep the same, change and measure during an investigation.	Plan different types of scientific enquiries to answer questions and recognising variables in terms of what they should keep the same, change and measure during an investigation. Children should be able to explain why these are important to fair testing.

 Make observations	Make observations using the 5 senses.	Use simple equipment to observe closely.	Use simple equipment to observe closely including changes over time.	Make systematic and careful observations, applying key vocabulary.
 Gather and record data	Identify and classify.	Identify, group and classify data.	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.	Record findings using accurate scientific language, drawings, labelled diagrams, keys, bar charts and tables.
 Measure	Make comparative vocabulary to describe measures e.g. big, small, bigger, smaller, more, less, louder, faster,	Make simple measurements using non-standard units e.g. Counting how many steps, cups, spoons, drops etc Begin to measure in standard units using equipment with simple scales.	Where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	Take measurements, using scientific equipment such as force metres, measuring cylinders, stop watches, with increasing accuracy and precision, taking repeat findings when appropriate.
 Interpret data	With support of an adult find the answer to a question.	Use his/her observations and ideas to suggest answers to questions Begin to notice similarities, differences and patterns.	Use straightforward scientific evidence to answer questions or to support his/her findings.	Identify scientific evidence that has been used to support or refute ideas or arguments.

 Draw conclusions	Tell others what you did and what you found out.	Explain what happened, what you found out and explain simply why this is the case using simple evidence or knowledge.	Use evidence to draw conclusions, explaining what you have found out why you believe it to be true.	Draw conclusions, explaining what you have learned from the enquiry referring to evidence and data from your enquiry
 Present findings	Tell others what you did and what you found out, using an example if appropriate e.g. an object.	Communicate ideas, what he/she does, and what he/she finds out, in a variety of ways.	Report on findings from enquiry, including oral and written explanations, displays or presentations of results and conclusions.	Report and present findings from enquiries including conclusions, casual relationships and explanations of, and degree of trust in results, in oral and written forms such as displays and other presentations.
 Reflect and evaluate	Tell others what went well and what did not.	Recall what was successful or unsuccessful and why. Suggest possible solutions as to how this could be avoided in future.	Reflect on the enquiry's successes and suggest improvements and raising further questions if necessary.	Reflect on the accuracy and effectiveness of the enquiry and suggest alternatives for future enquiry where appropriate.