APP Primary Science Assessment Guidelines: levels 4 and 5

	AF1 – Thinking scientifically	AF2 – Understanding the applications and implications of science	AF3 – Communicating and collaborating in science	AF4 – Using investigative approaches	AF5 – Working critically with evidence
L 5	**Across a range of contexts and practical situations pupils:** • Use abstract ideas or models or more than one step when describing processes or phenomena • Explain processes or phenomena, suggest solutions to problems or answer questions by drawing on abstract ideas or models • Recognise scientific questions that do not yet have definitive answers • Identify the use of evidence and creative thinking by scientists in the development of scientific ideas	**Across a range of contexts and practical situations pupils:** • Describe different viewpoints a range of people may have about scientific or technological developments • Indicate how scientific or technological developments may affect different groups of people in different ways • Identify ethical or moral issues linked to scientific or technological developments • Link applications of science or technology to their underpinning scientific ideas	**Across a range of contexts and practical situations pupils:** • Distinguish between opinion and scientific evidence in contexts related to science, and use evidence rather than opinion to support or challenge scientific arguments • Decide on the most appropriate formats to present sets of scientific data, such as using line graphs for continuous variables • Use appropriate scientific and mathematical conventions and terminology to communicate abstract ideas • Suggest how collaborative approaches to specific experiments or investigations may improve the evidence collected	**Across a range of contexts and practical situations pupils:** • Recognise significant variables in investigations, selecting the most suitable to investigate • Explain why particular pieces of equipment or information sources are appropriate for the questions or ideas under investigation • Repeat sets of observations or measurements where appropriate, selecting suitable ranges and intervals • Make, and act on, suggestions to control obvious risks to themselves and others	**Across a range of contexts and practical situations pupils:** • Interpret data in a variety of formats, recognising obvious inconsistencies • Provide straightforward explanations for differences in repeated observations or measurements • Draw valid conclusions that utilise more than one piece of supporting evidence, including numerical data and line graphs • Evaluate the effectiveness of their working methods, making practical suggestions for improving them
L 4	**Across a range of contexts and practical situations pupils:** • Use scientific ideas when describing simple processes or phenomena • Use simple models to describe scientific ideas • Identify scientific evidence that is being used to support or refute ideas or arguments	**Across a range of contexts and practical situations pupils:** • Describe some simple positive and negative consequences of scientific and technological developments • Recognise applications of specific scientific ideas • Identify aspects of science used within particular jobs or roles	**Across a range of contexts and practical situations pupils:** • Select appropriate ways of presenting scientific data • Use appropriate scientific forms of language to communicate scientific ideas, processes or phenomena • Use scientific and mathematical conventions when communicating information or ideas	**Across a range of contexts and practical situations pupils:** • Decide when it is appropriate to carry out fair tests in investigations • Select appropriate equipment or information sources to address specific questions or ideas under investigation • Make sets of observations or measurements, identifying the ranges and intervals used • Identify possible risks to themselves and others	**Across a range of contexts and practical situations pupils:** • Identify patterns in data presented in various formats, including line graphs • Draw straightforward conclusions from data presented in various formats • Identify scientific evidence they have used in drawing conclusions • Suggest improvements to their working methods, giving reasons
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Overall assessment (tick one box only) Low 4 ☐ Secure 4 ☐ High 4 ☐ Low 5 ☐ Secure 5 ☐ High 5 ☐