

Science WORKING SCIENTIFICALLY Assessment Grid

Assessment areas	Support (EYFS)	End of KS1	End of Lower KS2	End of KS2	Challenge (KS3)
Questioning	Show curiosity about objects, events and people including from their familiar world such as the place where they live or the natural world and then asks questions why things happen.	Can be curious and ask simple questions.	Are able to ask their own relevant questions about what they observe	Can ask their own questions and develop different lines of enquiry based on their initial observations.	Can ask their own questions about different scientific phenomena and are able to then question and develop a line of enquiry based on observations of the real world using their prior knowledge and experience to further develop this.
Planning an approach	Begin to make suggestions for planning a way to answer a question including: <ul style="list-style-type: none"> learning by trial and error making links and notice patterns from their experiences engage in open-ended activities find ways to solve problems find new ways to do things test their ideas 	Are beginning to recognise that questions can be answered in different ways including: <ul style="list-style-type: none"> observing changes over a period of time noticing patterns grouping and classifying things carrying out simple comparative tests, finding things out using secondary sources 	Begin to use different types of scientific enquiries to answer questions including: <ul style="list-style-type: none"> observing changes over time noticing patterns grouping and classifying things carrying out simple comparative and fair tests finding things out using secondary sources 	Can with increasing confidence plan different types of enquiries including: <ul style="list-style-type: none"> observing changes over different periods of time, noticing patterns grouping and classifying things, carrying out comparative and fair tests including being able to recognise and control variables and finding things out using a wide range of secondary sources 	Are able to select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables.
Observations	Use their senses to explore the world around them including observing closely changes that occur such as any similarities, differences, or any patterns or changes. Are able to handle limited simple equipment safely and with increasing control.	Able to use a range of simple equipment and observe with increasing detail.	Able to use a range of equipment where accurate measurements are taken, including with dataloggers and thermometers. Begin to make choices as to the appropriateness of the equipment used. Can make systematic and careful observations during investigations.	Are able to take increasingly accurate measurements using a range of appropriate scientific equipment and understand the need for taking repeat readings when appropriate	Are able to use appropriate techniques, apparatus, and materials during fieldwork or class based investigations and understand the need to work safely. Make and record observations and measurements using a range of methods for different investigations.
Presenting Evidence	Make simple records of findings by creating simple representations of events, people or objects and begin to develop their ideas of grouping.	Is able to collect and record data such as using simple features to compare a range of objects and decide, with help, how to sort or group them by identification and classification.	Are able to collect, record, classify and present data in a variety of ways which will help them to answer their question. Examples could include: drawings, labelled diagrams, bar charts and tables ensuring that simple scientific language is being used.	Are able to record data and results in a range of increasing complex ways including: using scientific diagrams and labels, classification keys, tables, scatter, bar and line graphs. Ensuring that scientific vocabulary is used correctly.	Are able to present observations and data (by applying mathematical concepts and calculating results) using appropriate methods, including tables and graphs. Are able to evaluate data and identify potential anomalies.
Drawing conclusions/ Evaluation	Beginning to develop ideas for the reasons for simple cause and effect by developing their own narratives and explanations by connecting ideas or events they have experienced. Are able to use, with prompting and help, vocabulary that reflects the breadth of their experience. Beginning to organise, sequence and clarify their thinking, ideas and feelings from events they have experienced. Able to explain why some things occur following observations of animals and plants and are able to talk about these changes.	Are able to begin to use simple scientific language to talk about what they have found out using their observations and ideas to suggest possible answers to their original question. Are beginning to use a variety of ways to communicate their ideas including to a range of audiences.	Can use results to draw simple conclusions including the use of appropriate scientific language initially through discussion and then in a written format such as presentations, displays and explanations etc. Are able to begin to suggest improvements for their investigation and also create new questions and predictions for setting up further tests as an extension from their initial investigation.	Are able to draw conclusions based on their results (from data or observations) using evidence to justify their ideas. Are able to use their scientific knowledge and understanding to explain their findings in more detail including causal relationships and the degree of trust they have in their results. To use a wide range of scientific vocabulary appropriately and with increasing reference to scientific concepts in order to explain their results. To use their test results to make predictions in order to set up further comparative and fair tests.	Able to present reasoned explanations, including evaluating and recognising anomalies from observations and data. Is able to explain data in relation to predictions.
Explaining evidence	Begin to make generalisations, connections and predictions from regular hands on science experiences.	Make generalisations, connections and predictions from regular hands on science experience.	Able to use straightforward, scientific evidence to answer questions or to support their findings. Further identify differences, similarities or changes related to simple, scientific ideas and processes.	Able to identifying scientific evidence that has been used to support or refute ideas or arguments and possibly use simple models to describe these scientific ideas.	Able to present reasoned explanations, including explaining data in relation to previous predictions.