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| **Science - Skills Progression (Working Scientifically) KS2** |
| Working Scientifically | Year 3 | Year 4 | Year 5 | Year 6 |
| **Planning**  | Asking questions | Ask questions independently and generate own ideas to explore through Scientific enquiry. | Ask questions and offer ideas for a range of scientific enquiry. With support, improve focus of question to clarify its scientific purpose. | Independently ask questions and offers ideas for scientific enquiry, which have a clear scientific purpose | Recognise scientific questions that do not yet have definitive answers. |
| Planning detail | Recognise when to answer a question by using a fair test method and when other methods might be needed. In a fair test, identify what to keep the same and sometimes ant to change and measure. | Know when to answer a question by using a fair test method and when better evidence could be generated in other ways, e.g. through a survey, diary/log or research. Set up a fair test controlling variables, what to keep the same, what to change, measure or observe. | Identifies the most appropriate enquiry methods to use to generate evidence needed to solve problems and answer scientific questions. Plan familiar enquiry types in appropriate detail.  | Select methods to use to solve problems or answer questions, including a full range of enquiry methods, which are planned in detail. |
| **Observing** | Using equipment | Select from a wider range of equipment what to use in an investigation. Use basic equipment correctly, safely and with increasing accuracy. | Use a wide range of equipment for example thermometers and data loggers, correctly, safely, and accurately. Deal with most equipment difficulties independently before asking for help if necessary. | Select the most appropriate equipment to use in a range of contexts and enquiries. Take measurements using a range of science equipment with increasing accuracy and precision. | Explain why particular pieces of equipment or information sources will provide better quality evidence. |
| Making observations | Make relevant observations throughout an investigation. Use standard measuring equipment for quantities, such as volume and temperature. | Choose to make a series of observations that will add to the evidence they collect while investigating. With support, take accurate readings on measuring equipment, recognising when to repeat them. | Choose to make a series of observations or measurements that will add to the quality of the evidence collected while investigating. | Repeats sets of observations or measurements, where appropriate, selecting suitable ranges and intervals, to give sufficient depth of evidence. |
| **Recording** | Presenting evidence | Gather, records, classifies and presents data in a variety of ways to help in answering questions. Sometimes create own tables and bar charts, using ICT where appropriate. Interpret a line graph with support. | Select the most appropriate way to present evidence they have collected. Record findings using drawings, labelled diagrams, bar charts, tables and graphs, using ICT where appropriate. Use simple scientific language effectively to communicate outcomes.  | Record data and results of increasing complexity using scientific diagrams, classification keys, tables, bar and line graphs and models. Communicate findings in written form, displays and uses other forms of presentation. Uses scientific language to communicate increasingly detailed analysis.  | Decide on the most appropriate formats to present sets of scientific data, such as using line graphs for continuous variables. Communicates findings in written form, across a range of genre, and uses multi-media and other forms of presentation. |
| **Concluding** | Drawing conclusions | Report on findings from enquiries, including oral and written, displays or presentations of results and conclusions. Make a general statement about simple patterns they notice in a set of results. | Make a comparative statement, sometimes referring to the factors under investigation. Identify differences, similarities, or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings.  | Where appropriate, make a comparative statement, describing relationships between factors being investigated. Use simple models to help describe scientific ideas. | Use scientific evidence to answer questions or support findings. Draw valid conclusions that utilise more than one piece of supporting evidence. |
| Explaining evidence | Provide explanations for simple patterns in results, referring to everyday experiences when explaining reasoning. | Relate explanations of patterns in results to scientific knowledge and understanding when explaining reasoning. | Relate explanations of evidence gathered to scientific knowledge and understanding. Make generalisations about what that evidence seems to indicate. | Provide explanations for differences repeated observations or measurements, identifying reasons for any anomalies noticed. |
| **Evaluating** | Evaluating outcomes | Suggest how an enquiry might be improved. With support, recognise some of the limitations and significance of evidence.  | Suggest how much to trust results, identifying some of the limitations of evidence. Suggest new questions and predictions for setting up further tests. | Recognise some of the limitations of their evidence and can suggest why it should not be trusted. Use test results to set up further comparative tests. | Evaluate the effectiveness of their working methods, making practical suggestions for improving them. Identify scientific evidence that has been used to support or refute ideas or arguments. |