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| SCIENCE SKILLS REC to Y6  WORKING SCIENTIFICALLY | | | | | | | |
|  | EYFS Skills | Key Stage 1 Skills | | Lower Key Stage 2 Skills | | Upper Key Stage 2 Skills | |
|  | End of REC  Expectations | End of Year 1  Expectations | End of Year 2  Expectations | End of Year 3 Expectations | End of Year 4  Expectations | End of Year 5 Expectations | End of Year 6 Expectations |
| ASPECT | Average age 5 years 6 months | Average age 6yrs 6months | Average age 7years 6 months | Average age  8years 6 months | Average age 9 years 6 months | Average age 10 years 6 months | Average age 11 years 6 months |
| Answering and answering questions |  | Use everyday language/begin to use simple scientific words to ask or answer a scientific question | Suggest ideas, ask simple questions and know that they can be answered/investigated in different ways including simple secondary sources such as books/video clips | Use ideas to pose questions, independently about the world around them | Suggest relevant questions and know that they could be answered in a variety of ways including using secondary sources such as ICT Answer questions using straight forward scientific evidence | Raise different types of scientific questions and hypotheses | Pose/select the most appropriate line of enquiry to investigate scientific questions |
| Investigating |  | Follow instructions to complete a simple test individually or in a group | Do things in the correct order when performing a simple test and begin to recognise when something is unfair | Discuss enquiry methods and describe a fair test | Make decisions about different enquiries including recognising when a fair test is necessary and begin to identify variables | Plan a range of science enquiries including comparative and fair tests | Select and plan the most sitable line of enquiry, explaining which variables need to be controlled and why in a variety of comparative and fair tests |
| Observing |  | Observe objects materials and living things and describe what they see | Observe something closely and describe changes over time. | Make decisions about what to observe during an investigate | Make systematic and careful observations | Plan and carry out comparative and fair tests making systematic and careful observations | Make their own decisions about which observations to make using test results and observations to make predictions or set up further comparative or fair tests |
| Equipment and measuring |  | Use simple, non- standard measurements in a practical task | Use simple equipment such as hand lenses or egg timer to take measurements, make observations and carry out simple tests | Take accurate measurements using standard units | Take accurate measurements using standard units and a range of equipment, including thermometers and dataloggers | Take measurements using a range of scientific equipment with increasing accuracy and precision | Choose the most appropriate equipment in order to take measurements, explaining how to use it accurately. Decide how long to take measurements for, checking results with additional readings |
| Identifying and classifying |  | Sort and group objects, materials and living things with help, according to simple observational features | Decide, with help, how to group materials, living things and objects, noticing changes over time and beginning to see patterns | Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships | Identify similarities/differences/ changes when talking about scientific processes. Use and begin to create simple keys | Use and develop keys to identify classify and describe living things and materials | Identify and explain patterns seen in the natural environment |
| Recording and reporting on findings |  | Talk about their findings and explain what they have found out | Gather data, record and talk about their findings in a range of ways using simple scientific vocabulary | Record their findings using scientific language and present in note form, writing frame, diagrams, tables and charts. | Choose appropriate ways to record and present information, findings and conclusions for different audiences e.g. displays, oral or written explanations | Record data and results of increasing complexity using scientific diagrams, labels, classification keys, tables, bar and line graphs and model | Choose the most effective approach to record and report results linking to mathematical knowledge |
| Analysing data |  | Use every day or simple scientific language to ask and or answer a question on given data | Identify simple patterns and/or relationships using simple comparative language | Gather record and use data in a variety of ways to answer a simple question | Identify, with help, changes, patterns, similarities and differences in data to help form conclusions. Use scientific evidence to support their findings | Use relevant scientific language and illustrations to discuss communicate and justify their scientific ideas | Identify and explain causal relationships in data and identify evidence that supports or refutes their findings, selecting fact from opinion |
| Drawing conclusions |  | Explain with help what they think they have found out | Use simple scientific language to explain what they have found out | Draw, with help, a simple conclusion based on evidence from an enquiry or observation | Use recorded data to make predictions, pose new questions and suggest improvements for further enquiries | Use simple mode of communication to justify their conclusions on a hypothesis. Begin to recognise how scientific ideas change over time | Identify validity of conclusion and required improvement to methodology. Discuss how scientific ideas develop over time |