**Tarporley C of E Primary School**

**Progression in Science under the 2014 National Curriculum**

**Working Scientifically**

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| **‘Big Idea’** | **Sub-process** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **1) Planning investigations** | **a) Pupils can ask questions** | 1.1.a.1 Ask simple questions when prompted | 2.1.a.1 Ask simple questions | 3.1.a.1 Ask relevant questions when prompted | 4.1.a.1 Ask relevant questions |  |  |
| **b) Pupils can plan an enquiry** | 1.1.b.1 Suggest ways of answering a question | 2.1.b.1 Recognise that questions can be answered in different ways | 3.1.b.1 Set up simple and practical enquiries, comparative and fair tests | 4.1.b.1 Plan different types of scientific enquiries to answer questions | 5.1.b.1 With prompting, plan different types of scientific enquiries to answer questions | 6.1.b.1 Plan different types of scientific enquiries to answer questions |
| **c) Pupils can identify and manage variables** |  |  | 3.1.c.1 Set up comparative tests | 4.1.c.1 Set up simple and practical enquiries, comparative and fair tests | 5.1.c.1 With prompting, recognise and control variables where necessary | 6.1.c.1 Recognise and control variables where necessary |
| **2) Conducting experiments** | **a) Pupils can use equipment to take measurements** | 1.2.a.1 Make relevant observations  1.1.a.2 Conduct simple tests, with support | 2.2.a.1 Observe closely, using simple equipment  2.2.a.2 Perform simple tests | 3.2.a.1 Make systematic observations, using simple equipment | 4.2.a.1 Make systematic and careful observations using a range of equipment, including thermometers and data loggers | 5.2.a.1 Select, with prompting, and use appropriate equipment to take readings | 6.2.a.1 Take measurements using a range of scientific equipment |
| **b) Pupils explore how to improve the quality of data** |  | 3.2.b.1 Use standard units when taking measurements |  | 4.2.b.1 Take accurate measurements using standard units, where appropriate | 5.2.b.1 Take precise measurements using standard units | 6.2.b.1 Take measurements with increasing accuracy and precision |
| **c) Pupils understand the role of repeat readings** |  |  |  |  | 5.2.c.1 Take and process repeat readings (+) | 6.2.c.1 Take repeat readings when appropriate |
| **3) Recording evidence** | **a) Pupils record work with diagrams and label them** | 1.3.a.1 With prompting, suggest how findings could be recorded | 2.3.a.1 Record and communicate their findings in a range of ways and begin to use simple scientific language | 3.3.a.1 Record findings in various ways | 4.3.a.1 Record findings using simple scientific language, drawings and labelled diagrams | 5.3.a.1 Record data and results | 6.3.a.1 Record data and results of increasing complexity using scientific diagrams and labels |
| **b) Pupils can display data using labelled diagrams, keys, tables and bar charts** |  |  | 3.3.b.1 With prompting, suggest how findings may be tabulated | 4.3.b.1 Record findings using keys, bar charts, and tables | 5.3.b.1 Record data using labelled diagrams, keys, tables and charts | 6.3.b.1 Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar charts |
| **c) Pupils can display data using line graphs** |  |  | 3.3.c.1 With prompting, use various ways of recording, grouping and displaying evidence | 4.3.c.1 Gather, record, classify and present data in a variety of ways to help to answer questions | 5.3.c.1 Use line graphs to record data | 6.3.c.1 Record data and results of increasing complexity using line graphs |
| **4) Reporting findings** | **a) Pupils process findings to develop conclusions and identify causal relationships** | 1.4.a.1 Recognise findings | 2.4.a.1 Identify and classify | 3.4.a.1 With prompting, suggest conclusions from enquiries | 4.4.a.1 Report on findings from enquiries, including oral and written explanations, of results and conclusions | 5.4.a.1 Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships | 6.4.a.1 Report and present findings from enquiries, including conclusions and causal relationships |
| **b) Pupils use displays and presentations to report on findings** |  |  | 3.4.b.1 Suggest how findings could be reported |  | 5.4.b.1 With support, present findings from enquiries orally and in writing | 6.4.b.1 Report and presents findings from enquiries in oral and written forms such as displays and other presentation |
| **c) Pupils explain confidence in findings** |  |  |  |  | 5.4.c.1 With prompting, identify that not all results may be trustworthy | 6.4.c.1 Report and present findings from enquiries, including explanations of, and degree of, trust in results |
| **5) Conclusions and predictions** | **a) Pupils can analyse data** | 1.5.a.1 Gather and record data | 2.5.a.1: Gather and record data to help answer questions | 3.5.a.1 Gather and record data about similarities, differences and changes | 4.5.a.1 Identify differences, similarities or changes related to simple scientific ideas and processes |  |  |
| **b) Pupils can draw conclusions** | 1.5.b.1 Use observations to suggest answers to questions | 2.5.b.1 Use their observations and ideas to suggest answers to questions | 3.5.b.1 With prompting, suggest conclusions that can be drawn from data | 4.5.b.1 Use straightforward scientific evidence to answer questions or to support their findings | 5.5.b.1 Suggest how evidence can support conclusions | 6.5.b.1 Identify scientific evidence that has been used to support or refute ideas or arguments |
| **c) Pupils can develop investigation further** |  |  | 3.5.c.1 Suggest possible improvements or further questions to investigate | 4.5.b.1 Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions | 5.5.c.1 Suggest further comparative or fair tests | 6.5.c.1 Use test results to make predictions to set up further comparative and fair tests |