Working Scientifically Progression Map

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| **Ideas and Evidence** | Answer a question with no reason or a non- scientific reason<br><br>Make contributions to discussions<br><br>Use pictures, annotated diagrams and lists to find out about ideas | Answer a question using experience<br><br>Give reasons to support ideas when asked to do so<br><br>Use simple texts, with help, to find out about scientific ideas | Recognise why it is important to collect data to answer questions<br><br>Give scientific reasons to support ideas when asked to do so<br><br>Use simple texts to find information | Recognise that scientific ideas are based on evidence<br><br>Recognise that it is important to test ideas from observation and measurement Select suitable information from sources provided | Understand how experimental evidence and creative thinking have been combined to provide a scientific explanation<br><br>Distinguish opinion and scientific evidence and use evidence rather than opinion to support or challenge scientific arguments<br><br>Select from a range of sources of information when trying to answer a scientific question | Understand how experimental evidence and creative thinking have been combined to provide a scientific explanation<br><br>Distinguish opinion and scientific evidence and use evidence rather than opinion to support or challenge scientific arguments<br><br>Select from a range of sources of information when trying to answer a scientific question |
| **Planning** | Use Why, What if, How and When to ask questions<br><br>Can identify variables that could be changed<br>-Make a guess/simple prediction | With help raise questions<br><br>With help chooses variables and explains fairness<br><br>Make predictions with a reason based on personal experience | Raise questions<br><br>Begin to carry out a fair test, recognising and explaining why it is fair<br><br>Make a prediction with a good reason based on personal experience | With help raise scientific questions containing scientific knowledge and understanding<br><br>Plan and carry out a fair test and explain why it is fair | Raise questions containing scientific knowledge and understanding Identify key variables to be considered<br><br>Where appropriate make predictions based on scientific | Raise questions containing scientific knowledge and understanding<br><br>Identify key variables to be considered<br><br>Where appropriate make predictions based on scientific |

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| | With help respond to suggestions about how to find things out<br><br>With help make suggestions about how to collect data to answer questions | Suggest how to find things out<br><br>With help, draw up my own format | With help decide an appropriate approach<br><br>Draw up my own format | Where appropriate, I make predictions based upon knowledge and understanding<br><br>Decide on an appropriate approach<br><br>Plan what data to collect | knowledge and understanding<br>Identify several approaches and select the most appropriate<br><br>Plan to collect sufficient data to gain reliable results | knowledge and understanding<br>Identify several approaches and select the most appropriate<br><br>Plan to collect sufficient data to gain reliable results |
| **Obtaining and presenting evidence** | With help use simple equipment provided to collect data<br><br>Describe or respond appropriately to observations about: simple features of objects, living things and events<br><br>Record by drawing what I find out<br><br>With help present data using simple Venn diagrams, pictograms and block graphs | Use simple equipment provided<br><br>Make relevant observations because they are structured for me<br><br>*With help can recognise that a reading is uncertain*<br><br>With help record using simple tables<br><br>Present data using simple Venn diagrams, pictograms and block graphs | Use a range of simple equipment<br><br>Make relevant observations independently<br><br>Repeat a reading that I am uncertain about<br><br>Record using simple tables and tally and frequency charts<br><br>Present data using bar charts, Venn and Carroll diagrams | Select suitable equipment from a range of similar provided<br><br>Make a series of observations and with help explain using scientific vocabulary<br><br>With help include repeat readings<br><br>With help record in a table that includes repeat readings<br><br>With help extend presentation of data to include line graphs | Select suitable equipment from a range of similar equipment provided and decide on appropriate accuracy<br><br>Make a series of observations and explain using scientific vocabulary<br><br>Include repeat readings<br><br>Record in a table that includes repeat readings<br><br>Extend presentation of data to include line graph | Select suitable equipment from a range of similar equipment provided and decide on appropriate accuracy<br><br>Make a series of observations and explain using scientific vocabulary<br><br>Include repeat readings<br><br>Record in a table that includes repeat readings<br><br>Extend presentation of data to include line graph |

| Considering evidence and evaluating | Interpret data from simple Venn diagrams, pictograms and block graphs | Interpret data from bar charts, Venn and Carroll diagrams | Interpret data from bar charts, Venn and Carroll diagrams. With help can interpret data from a line graph | Can interpret from bar charts, Venn, Carroll diagrams and line graphs | Can interpret data from a range of graphs and see relationships between graphs | Can interpret data from a range of graphs and see relationships between graphs |
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| | Make simple statements about my investigation | Make comparative statements about my investigation | Make comparative statements linked to the variable being investigated | Make comparative statements linked to the variable being investigated and use personal knowledge and understanding to form an explanation | Make comparative statements linked to the variable being investigated and use scientific knowledge and understanding to form an explanation | Make comparative statements linked to the variable being investigated and use scientific knowledge and understanding to form an explanation |
| | Express surprise when something unexpected happens | Say whether what happened was what I expected | With help can use data to support or contradict a prediction | Can use data to support or contradict a prediction | Can use data to support or contradict a prediction and give an explanation | Can use data to support or contradict a prediction and give an explanation |
| | | With help can explain the accuracy of my data | Can explain the accuracy of my data | Can explain the accuracy of their data and whether I controlled variables | Can explain the accuracy of their data, whether they controlled variables and had sufficient evidence | |
| | | With help suggest different ways I could have done things | Suggest improvements to my working method | Suggest improvements to my working method, giving reasons | Evaluate the effectiveness of my working methods, making practical suggestions for improving them | |

| Vocabulary | | | | | | |
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