

**Our children are receptive, inquisitive learners who, through our Gospel values, have a unique sense of the world.**

**Working Scientifically – Upper KS2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NC Objective    Pupils should be taught to: | Year 5  *Working Scientifically* | | Year 6  *Working Scientifically* | |
| Skills | Knowledge | Skills | Knowledge |
| Planning different types of scientific enquires to answer questions, including recognising and controlling variables where necessary | * To be able to observe changes over a period.   •noticing patterns •grouping and classify things •carry out simple comparative tests •find things out using secondary sources of information | To know that to discover different results you need to use a variety of different enquiries | * To be able to observe and explains changes over a period   • patterns  •grouping and classify things  •carry out simple comparative tests •find things out using secondary sources of information   * To be able to choose the most effective source or combination of sources to good effect. | To know that to discover different  results you need to use a variety of  different enquiries. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Identifying Scientific evidence that has been used to support or refute ideas and arguments | * To be able to use primary and secondary sources of information. | To know that evidence can be gathered from a wide range of sources including first-hand experience, primary and secondary resources | * To be able to use primary and secondary sources of information. * To be able to select the most appropriate sources of primary and secondary resources. | To know that evidence can be gathered from a wide range of sources including first-hand experience, primary and secondary resources |
| Taking measurements using a range of scientific equipment, with increased accuracy and precision, taking repeat readings where necessary | * Decide what observations to make, how often and what equipment to use * Decide what measurements to take, how long to make them for and whether to repeat them * Decide what sorting or classification criteria to use   Recognise when a simple fair test is necessary  • With help, decide what variables to  change and measure | To know that there are a variety of different methods to record your findings.      To know that it may be necessary to repeat the process to verify results. | * To be able to plan an effective investigation. * To be able to reflect on the results collected from an investigation and explain if another method would have been more appropriate. * To make informed choices to decide which variables to * change and measure | To understand that it may be necessary to try more than one method to determine which is the most effective. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Using test results to make predictions to set up further comparative and fair tests | * To be able to predict what will happen when they compare results. | To know that you can make predictions based on comparative results. | * To be able to predict what will happen when they compare results and to create fair tests. | To know that you can use predictions to inform results in both fair and comparative tests. |
| Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs. | * To be able to read and interpret results presented in a variety of different formats. | To know that results can be read and interpreted in a variety of different ways e.g., scientific diagrams and labels, classification keys, tables, and bar and line graphs. | * To be able to collect and interpret results presented in a variety of different formats. * To be able to choose the most appropriate format for the specific task. | To know that results can be collected and represented in a variety of different ways e.g. scientific diagrams and labels, classification keys, tables, and bar and line graphs. |
| Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations and degree of trust in results, in oral and written forms such as displays and other presentations. | * To be able to read and interpret finding from enquiries. | To know that there are a variety of different ways of reporting and presenting findings from enquiries. | * To be able to report and present findings from enquiries in the most appropriate form. | To know that there are a variety of different ways of reporting and presenting findings from enquiries. |
| Pupils should read, spell, and pronounce scientific vocabulary correctly | | | | |