

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

**Working Scientifically – Lower KS2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NC Objective    Pupils should be taught to: | Year 3  *(working scientifically)* | | Year 4  *(working scientifically)* | |
| Skills | Knowledge | Skills | Knowledge |
| • Ask relevant questions and use different types of scientific enquiry to answer them | * Be able to ask a range of questions to aid sorting. | To know that there are different types of questions. E.g. What, when, where? | * Ask a range of questions specifically linked to a topic | To know that there are different types of questions. E.g. How, why, what, when, where? |
| • Use straightforward scientific evidence to answer questions or to support their findings | * Be able to apply evidence to answer simple questions. | To know that they can explain their answers from applying previous day to day and scientific knowledge? | * Be able to apply evidence to answer simple questions and to support their thinking. | To know that they can explain their answers from applying previous knowledge or from their findings. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| • | Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers. | * Be able to decide what to measure or observe. * Decide how often to take a measurement. | To know that different measurements can be used for different purposes | * Measure using standard units where not all the numbers are marked on the scale. * Be able to use data loggers to measure over time. | To know that different measurements can be recorded. |
| • | Set up simple practical enquiries, comparative and fair tests. | * To carry out a simple enquiry directed by an adult      * To make the following decisions in an adult directed enquiry. * What to observe * What to change * What to measure | To know how to complete simple enquiries. | * To be able to plan their own enquiry * To decide what to do and what to observe in order to create a fair test change. | To know how to plan and complete simple enquiries. |
|  | * Identify differences , similarities or changes related to simple scientific ideas or processes | * To able to recognise, with support, differences, similarities or changes related to scientific ideas. | To know that there are similarities and differences within scientific ideas and processes. | * To be able to plan a simple experiment to show differences, similarities or changes related to scientific ideas. | To know that there are similarities and differences within scientific ideas and processes. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| • | Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. | Able to be   * Make predictions for new values within or beyond the collected data collected * Identify new questions arising from the data * Find ways of improving enquiries * To form conclusions | To know that results can be used to inform  your next step    To know what a conclusion is. | * To use results to raise further questions. * Independently ask questions and offer ideas for scientific enquiry. * To use test results to make predictions to set up further comparative and fair tests | To know that results can be used to inform your next step and to generate further avenues of inquiry. |
| • | Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. | * To be able to talk about what has been found out and how. * Record observations in words and pictures * Record observations and test results in simple prepared pictograms, tables, * tally charts, bar charts * To be able to select an appropriate method of recording. | To know that you can record your findings in a variety of different ways e.g. simple prepared pictograms, tables, tally charts, bar charts and maps including ICT  formats, sorting circles. | * To be able to discuss what has been found out and how * Record observations in annotated diagrams * Record observations and test results in simple prepared * pictograms, tables, tally charts, bar charts and maps including ICT formats | To know that different methods of recording may be more suited to specific tasks and enquires. |
|  |
| • | Gather, record, classify and present data in a variety of ways to help in answering questions. | * To be able to gather data to answer questions from a variety of sources | To know that data can be gathered in a variety of different ways e.g., including talking to people, simple books, and electronic media, first hand observation and practical activity to answer different forms of enquiry. | * Gather data to answer questions from a variety of sources including talking to people, simple books, and electronic media, first-hand observation and practical activity and represent them in the most appropriate format. | To know that data can be gathered in a variety of different ways to answer different forms of enquiry. |
| • | Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge. | | | | |