Threshold Concepts – Science (working scientifically)

	Pre Milestone	Milestone 1	Milestone 2	Milestone 3
Working Scientifically	1. Questions why things happen and gives explanations. Asks e.g. who, what, when, how. 2. Talks about why things happen and how things work. 3. Comments and asks questions about aspects of their familiar world such as the natural world. 4. Observe closely using simple equipment. 5. Can talk about some of the things they have observed such as plants, animals, natural and found objects. 6. Perform simple tests.	1. Ask simple questions. 2. Observe closely using simple equipment. 3. Perform simple tests. 4. Identify and classify. 5. Use observations and ideas to suggest answers to questions. 6. Gather and record data to help in answering questions.	1. Ask relevant questions 2. Set up simple practical enquiries, comparative and fair tests 3. Make accurate measurements using standard units, using a range of equipment, for example thermometers and data loggers. 4. Gather, record, classify and present data in a variety of ways to help in answering questions. 5. Record findings using simple scientific language, drawings, labelled diagrams, bar charts, and tables. 6. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. 7. Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests. 8. Identify differences, similarities or changes related to simple scientific ideas and processes. 9. Use straightforward scientific evidence to answer questions or to support findings.	1. Plan enquiries, including recognising and controlling variables where necessary. 2. Take measurements, using a range of scientific equipment, with increasing accuracy and precision. 3. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models. 4. Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions. 5. Present findings in written form, displays and other presentations. 6. Use test results to make predictions to set up further comparative and fair tests. 7. Use simple models to describe scientific ideas identifying scientific evidence that has been used to support or refute ideas or arguments.