Progression of Disciplinary knowledge
(Working Scientifically)

Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Asking questions 	To comment and ask questions about aspects of their familiar world, such as the place where they live or the natural world.	Ask questions about their world and the world around them (what I can see, smell, taste, touch etc) Begins to shape questions using different question stems.	With support, suggest your own questions that might be investigated. Begin to ask questions with relevance to a topic. Increasingly asking about unknown phenomena. Recognise different ways to answer a question.	Asks questions independently and generate own ideas to explore through Scientific enquiry. Recognise different ways to answer a question.	Asks questions and offers ideas for a range of scientific enquiry. With support, improves focus of question to clarify its scientific purpose.	Independently asks questions and offers ideas for scientific enquiry, which have a clear scientific purpose.	Recognises scientific questions that do not yet have definitive answers.
 **Making predictions**	Generating a variety of ideas for testing (not always realistic/appropriate Simple guess - what might happen?)	Decides which questions can be answered practically and which cannot.	Suggests the next step, or a sequence of steps, in a plan. Decides independently simple questions that could be answered practically and some that cannot.	Recognises when to answer a question by using a fair test method and when other methods might be needed. A fair test identifies what to keep the same and what to change and measure.	Knows when to answer a question by using a fair test method and when better evidence could be generated in other ways, e.g. through a survey, diary/log or research. Set up a fair test controlling variables.	Identifies the most appropriate enquiry methods to use to generate evidence needed to solve problems and answer scientific questions. Plan familiar enquiry types in appropriate detail.	Selects methods to use to solve problems or answer questions, including a full range of enquiry methods, which are planned in detail.

 **Setting up tests**	Looking at objects and pictures and discussing what they can see.	Begins to choose appropriate equipment to use to make observations and follows simple instructions for using it correctly and safely. Standard units of measurement. Use simple equipment to measure length, time, capacity, weight).	Begins to use basic equipment for measuring length or mass, in standard units, sometimes working independently of adult support. Select the most appropriate measurement and equipment. Use scientific vocabulary to aid measurement.	Selects from a wider range of equipment what to use in an investigation. Uses basic equipment correctly, safely and with increasing accuracy. Uses standard measuring equipment for quantities, such as volume and temperature.	Uses a wide range of equipment for example thermometers and data loggers, correctly, safely, and accurately. Deals with most equipment difficulties independently before asking for help if necessary.	Selects the most appropriate equipment to use in a range of contexts and enquiries. Takes measurements using a range of science equipment with increasing accuracy and precision.	Explains why particular pieces of equipment or information sources will provide better quality evidence.
 **Observing and measuring**	Measuring. Measure by direct comparison. General sensory observations of animals and plants. Simple descriptions of the world around them. Non-standard units of measurement. Talking about objects and events. Simple recording – pictures/images.	Can use non-standard units of measures where appropriate Refine observations (more descriptive) Makes relevant observations in familiar contexts. With support take some non-standard measurements.	Can begin to use standard units of measurements where appropriate (to nearest cm etc.) Make relevant observations. Takes non-standard measurements	Can take accurate measurements using standard units, using a range of equipment, including thermometers and start using data loggers	With support, takes accurate readings on measuring equipment, recognising when to repeat them. Chooses to make a series of observations that will add to the evidence they collect while investigating.	Can take accurate measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Chooses to make a series of observations or measurements that will add to the quality of the evidence collected while investigating.	Can take accurate measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Repeats sets of observations or measurements, where appropriate, selecting suitable ranges and intervals, to give sufficient depth of evidence.

 **Recording data**		Use simple drawings and labels to present evidence. With support, uses prepared simple tables and charts, including ICT forms.	Uses drawings and labels to present evidence. Uses prepared tables and block graphs, including ICT forms. Relate results to initial questions using scientific vocabulary. Identify patterns in data and explain..	Gathers, records, classifies and presents data in a variety of ways to help in answering questions. Sometimes creates own tables and bar charts, using ICT where appropriate. Interprets a line graph with support.	Selects the most appropriate way to present evidence they have collected. Records findings using drawings, labelled diagrams, bar charts, tables and graphs, using ICT where appropriate. Uses simple	Records data and results of increasing complexity using scientific diagrams, classification keys, tables, bar and line graphs and models. Communicates findings in written form, displays and uses other forms of presentation. Uses scientific language to communicate increasingly detailed	Decides on the most appropriate formats to present sets of scientific data, such as using line graphs for continuous variables. Communicates findings in written form, across a range of genres, and uses multimedia and other forms of presentation.
 **Interpreting and communicating skills.**	To talk about some of the things they have observed, such as plants, animals, natural and found objects	Describes simple observations of an object or objects or of an event and with support makes a simple comparison. . With support, recognises the links between cause and effect in simple, familiar situations.	Describes what has happened, making comparisons where appropriate. With support, sequences results, e.g. from smallest to largest Recognises the link between cause and effect in simple, familiar situations. Begins to notice simple patterns in results.	Reports on findings from enquiries, including oral and written, displays or presentations of results and conclusions. Make a general statement about simple patterns they notice in a set of results. Provides explanations for simple patterns in results, referring to everyday experiences when explaining reasoning.	Makes a comparative statement, sometimes referring to the factors under investigation. Uses straightforward scientific evidence to answer questions or to support their findings. Relates explanations of patterns in results to scientific knowledge and understanding when explaining reasoning.	Where appropriate, makes a comparative statement, describing relationships between factors being investigated. Uses simple models to help describe scientific ideas. Relates explanations of evidence gathered to scientific knowledge and understanding. Makes generalisations about what that evidence seems to indicate.	Uses scientific evidence to answer questions or support findings. Draws valid conclusions that utilise more than one piece of supporting evidence. Provides explanations for differences in repeated observations or measurements, identifying reasons for any anomalies noticed.

 **Evaluating**		Reviews their work and with support, recognises some of the difficulties encountered.	Reviews their work and recognises some of the difficulties encountered. With support, suggests how these might have been avoided.	Suggests how an enquiry might be improved. With support, recognises some of the limitations and significance of evidence.	Suggest how much to trust results, identifying some of the limitations of evidence. Suggests new questions and predictions for setting up further tests.	Recognises some of the limitations of their evidence and can suggest why it should not be trusted. Uses test results to set up further comparative tests.	Evaluates the effectiveness of their working methods, making practical suggestions for improving them. Identifies scientific evidence that has been used to support or refute ideas or arguments.

Our Science Vision	
How do we tailor Science for our children?	Science is very important to children at Nine Acres; it is engaging, fun and practical, which gives all children access to the science curriculum. We want them to know and understand many scientific concepts that can impact on their lives and we want them to know how to ensure that those impacts are positive. For example, they must know and understand how to keep themselves healthy; some areas of the Isle of Wight is among the 20% of most deprived areas in England, and Nine Acres is right in the heart of this area, which means families have either limited knowledge and understanding about or resources how to keep themselves and their families healthy. By inviting visitors and organising educational visits we further bring science to life for our children to help them broaden their scientific knowledge and understanding in all areas. We want our children to be inspired to think of a career in Science.
Why we have designed our curriculum this way	We have redesigned our curriculum because we wanted to improve the quality of not only Science teaching, but also Science learning parallel with it. By altering the amount of time spent on each topic we will enable this to happen. The result of this will be that children will become more immersed in Science, possibly even identifying a keen interest which could lead to a choice in a career in Science.