Skills overview

Statements are all taken from Target Tracker/ National Curriculum working scientifically skills outcomes (which are the same). Reception statements are from ELG.

Grey boxes indicate that this skill is not taught at this stage.

Area	Year N	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Investigative skills (Planning)			Ask simple questions and recognising that they can be answered in different ways	Ask simple questions and recognising that they can be answered in different ways, including use of scientific language from NC Communicate ideas, what he/she does and finds out in a variety of ways.	Ask relevant questions and use different types of scientific enquiries to answer them Set up simple practical enquiries comparative and fair tests		Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	
Investigative skills (Making observations / Carrying out investigations/ collecting data)	Comment and ask questions about aspects of their familiar world such as the place where they live or the natural world. Can talk about some of the things they have observed such	They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and	Use simple equipment to observe closely Perform simple tests Identify and classify	Use simple equipment to observe closely, including changes over time. Perform simple comparative tests Identify, group and classify	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units using a range of equipment, including thermometers and data loggers Gather … data in a variety of ways to help in answering questions		Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	

	as plants, animals, natural and found objects. Talks about why things happen and how things work. Show care and concern for living things and the environment.	plants		Communicate ideas, what he/she does and finds out in a variety of ways.			
Investigative skills (Recording data)			Identify and classify Gather and record data to suggest answers to questions.	Identify, group and classify Gather and record data to help in answering questions, including from secondary sources. Communicate ideas, what he/she does	Gather, record, classify and present data in a variety of ways to help in answering questions Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Group and classify things

				and finds out in a variety of ways.			and recognise patterns
Investigative skills (Drawing conclusions)	Developing an understanding of growth, decay and changes over time.	Children know about similarities and differences in relation to places, objects, materials and living things. They make observations of animals and plants and explain why some things occur, and talk about changes.	Use observations and ideas to suggest answers to questions	Use observations and ideas to suggest answers to questions, noticing similarities, differences and patterns. Gather and record data to help in answering questions, including from secondary sources. Communicate ideas, what he/she does and finds out in a variety of ways.	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions … Use straightforward scientific evidence to answer questions or to support their findings.	Use test results to make predictions to set up further comparative and fair tests Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations	Use test results to make predictions to set up further comparative and fair tests Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations Group and classify things and recognise patterns Find things out using a wide range of

							secondary sources of information Use appropriate scientific language and ideas from the NC to explain evaluate and communicate methods and findings
Investigative skills (applying & evaluating conclusions/ evidence)					Use results to … make predictions for new values, suggest improvements and raise further questions Identify differences, similarities or changes related to simple scientific ideas and processes	Use test results to ... set up further comparative and fair tests Identify scientific evidence that has been used to support or refute ideas or arguments	Use test results to ... set up further comparative and fair tests Identify scientific evidence that has been used to support or refute ideas or arguments Describe and evaluate their own and others' scientific ideas related to topics in the NC (inc ideas that have changed over time), using evidence from a

					range of sources.
Key vocabulary for skills	Question, answer, look carefully, equipment, sort, group, draw, show me... , same, different, tell me about....	Question, answer, observe, observing, equipment, identify, classify, sort, group, record, diagram, chart, map, data, compare (similarities), contrast (differences), describe. question, answer, observe, observing, equipment, identify, classify, sort, group, record, diagram, chart, map, data, compare (similarities), contrast (differences), describe.	(As KS1 plus): research, relevant questions, scientific enquiry, comparative and fair test, equipment/ apparatus, method, systematic observation, careful observation, accurate measurements, equipment, thermometer, data logger, data, gather, record, classify, present, record, labelled diagrams, keys, tables, bar charts, drawings, oral explanation, written explanation, conclusion, prediction, differences, similarities, changes, evidence, improve, secondary sources, guides, keys, construct, interpret.		Use appropriate scientific language and ideas from the NC to explain evaluate and communicate methods and findings
				(As KS1/ LKS2 plus): Plan, apparatus, method, variables, measurements, accuracy, precision, repeat readings, report data - scientific diagrams, labels, classification keys, tables, scatter graphs, bar graphs, line graphs, predictions/ hypothesis, further comparative and fair tests, report and present - conclusions, casual relationship, explanations, degree of trust, oral and written display and presentation, evidence - support/ refute ideas, arguments, identify, classify, describe, patterns, systematic, quantitative measurements.	