



Progression in Knowledge and Skills in Scientific Enquiry

SKILL	ETFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Expected Standard							
Questioning and enquiring - planning	With prompting, ask a few simple questions about the world around us.	Ask simple questions about the world around them. <ul style="list-style-type: none"> Begin to recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources) 	Ask questions about the world around them. <ul style="list-style-type: none"> Recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources). 	Ask some relevant questions and use different types of scientific enquiries to answer them. <ul style="list-style-type: none"> Begin to explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop ideas about functions, relationships and interactions. Begin to raise their own questions about the world around them. Begin to make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources. 	Ask relevant questions and use different types of scientific enquiries to answer them. <ul style="list-style-type: none"> Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop ideas about functions, relationships and interactions. Raise their own questions about the world around them. Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources. 	Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. <ul style="list-style-type: none"> Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. Begin to recognise scientific ideas change and develop over time. Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry (including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.) 	<ul style="list-style-type: none"> Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. Begin to recognise scientific ideas change and develop over time. Select the most appropriate ways to answer science questions using different types of scientific enquiry (including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests & finding things out using a wide range of secondary sources of info.)
	<ul style="list-style-type: none"> With support, begin to observe closely, using simple equipment. 	Begin to observe closely, using simple equipment. <ul style="list-style-type: none"> Use simple observations and ideas to suggest answers to questions. To observe simple changes over time and, with guidance, begin to notice patterns and relationships. To say what they are looking for and what they are measuring. To know how to use simple equipment safely. Use simple measurements and equipment with support (eg hand lenses and egg timers) Begin to progress from non-standard units, reading cm, m, cl, l, °C 	Observe closely, using simple equipment. <ul style="list-style-type: none"> Use observations and ideas to suggest answers to questions. Observe changes over time and, with guidance, begin to notice patterns and relationships. Say what they are looking for and what they are measuring. To know how to use simple equipment safely. Use simple measurements and equipment with increasing independence (e.g. hand lenses and egg timers) Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C 	<ul style="list-style-type: none"> Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use some new equipment appropriately (e.g. data loggers). Begin to see a pattern in my results. Begin to choose from a selection of equipment. Begin to observe and measure accurately using standard units including time in minutes and seconds 	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers <ul style="list-style-type: none"> Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use new equipment appropriately (e.g. data loggers). Can spot a pattern in results Can choose from a selection of equipment. Can observe and measure accurately using standard units including time in minutes and seconds. 	Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. <ul style="list-style-type: none"> Begin to identify patterns that might be found in the natural environment. Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns. Select equipment on their own. Can make a set of observations and say what the interval and range are. Begin to take accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec • Graphs – pie, line 	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. <ul style="list-style-type: none"> Identify patterns that might be found in the natural environment. Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. • Choose the most appropriate equipment and explain how to use it accurately. Can interpret data and find patterns. Select equipment on their own. Can make a set of observations and say what the interval and range are. • Accurate and precise measurements e.g N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec • Graphs – pie, line, bar
	Investigating	To begin to discuss my ideas about how to find things out.	my ideas about how to find things out. <ul style="list-style-type: none"> Perform simple tests with support. Begin to discuss their ideas about how to find things out. To begin to say what happened in their investigation. 	Perform simple tests. <ul style="list-style-type: none"> To discuss their ideas about how to find things out. • To say what happened in their investigation. 	Set up some simple practical enquiries, comparative and fair tests. <ul style="list-style-type: none"> Begin to recognise when a simple fair test is necessary and help to decide how to set it up. • Begin to think of more than one variable factor. 	Set up simple practical enquiries, comparative and fair tests. <ul style="list-style-type: none"> Recognise when a simple fair test is necessary and help to decide how to set it up. Can think of more than one variable factor. 	Begin to use test results to make predictions to set up further comparative and fair tests. <ul style="list-style-type: none"> Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Begin to suggest improvements to their method and give reasons. Begin to decide when it is appropriate to do a fair test.

Recording and Reporting Findings	<ul style="list-style-type: none"> Gather and record data with adult support, to help in answering questions 	<p>Gather and record data with some adult support, to help in answering questions.</p> <ul style="list-style-type: none"> Begin to record simple data. Begin to record and communicate their findings in a range of ways. Can show their results in a simple table that the teacher has provided. 	<p>Gather and record data with some adult support, to help in answering questions.</p> <ul style="list-style-type: none"> Begin to record simple data. Begin to record and communicate their findings in a range of ways. Can show their results in a simple table that the teacher has provided. 	<p>Gather, record, and begin to classify and present data in a variety of ways to help in answering questions.</p> <ul style="list-style-type: none"> Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data. Begin to record results in tables and bar charts. 	<p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <ul style="list-style-type: none"> Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use notes, simple tables and standard units and help to decide how to record and analyse their data. Can record results in tables and bar charts. 	<p>Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs.</p> <ul style="list-style-type: none"> Begin to report and present findings from enquiries. Begin to decide how to record data from a choice of familiar approaches. Begin to choose how best to present data. 	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs</p> <ul style="list-style-type: none"> Report and present findings from enquiries. Decide how to record data from a choice of familiar approaches. Can choose how best to present data.
Identifying, grouping and	Identify and classify with support.	<p>Identify and classify with some support.</p> <ul style="list-style-type: none"> To begin to observe and identify, compare and describe. To begin to use simple features to compare objects, materials and living things and, with help, decide how to sort and group them. 	<p>Identify and classify.</p> <ul style="list-style-type: none"> Observe and identify, compare and describe. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them. 	<p>Begin to identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Begin to talk about criteria for grouping, sorting and classifying and use simple keys.</p> <p>Begin to compare and group according to behaviour or properties, based on testing.</p>			

<ul style="list-style-type: none"> Begin to identify differences, similarities or changes related to simple scientific ideas and processes. Begin to talk about criteria for grouping, sorting and classifying and use simple keys. Begin to compare and group according to behaviour or properties, based on testing. 	<ul style="list-style-type: none"> Identify differences, similarities or changes related to simple scientific ideas and processes. Talk about criteria for grouping, sorting and classifying and use simple keys. Compare and group according to behaviour or properties, based on testing. 	<ul style="list-style-type: none"> Begin to use and develop keys and other information records to identify, classify and describe living things and materials. 	<ul style="list-style-type: none"> Use and develop keys and other information records to identify, classify and describe living things and materials.
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