



THE 21
STEPS

Working Scientifically EYFS

	Step 1	Step 2	Step 3	
<p>The Characteristics of Effective Learning and the prime and specific areas of Learning and Development are all interconnected.</p> <p>The ways in which the child engages with other people and their environment - playing and exploring, active learning, and creating and thinking critically - underpin learning and development across all areas and support the child to remain an effective and motivated learner. The prime areas begin to develop quickly in response to relationships and experiences, and run through and support learning in all other areas. The prime areas continue to be fundamental throughout the EYFS. The <i>specific</i> areas include essential skills and knowledge (<i>The World</i>). They grow out of the prime areas, and provide important contexts for learning.</p>				
Plan	- I show curiosity about objects, events and people.	- I can use my senses to explore the world around me.	- I can take a risk, engage in new experiences and learn by trial and error.	- Playing & Exploring.
Do	<ul style="list-style-type: none"> - I can begin to select and use activities and resources with help. - I can use one handed tools and equipment. - I can engage in open-ended activities. - I can find new ways to do things. - I can closely observe what animals, people and vehicles do. 	<ul style="list-style-type: none"> - I can select and use activities and resources with help. - I can use simple tools to effect changes to materials. - I can represent my experiences through play. - I can test my ideas. - I can make observations of animals and plants and begin to explain why some things occur, and talk about changes. 	<ul style="list-style-type: none"> - I can choose the resources I need for my chosen activities (ELG). - I can handle equipment and tools effectively (ELG). - I can seek further challenges based on my experiences. - I can find ways to solve problems. - I can make observations of animals and plants and explain why some things occur, and talk about changes (ELG). 	<ul style="list-style-type: none"> - Self Confidence & Self Awareness. - Moving & Handling. - Playing & Exploring. - Creating & Thinking Critically. - The World.
Record	<ul style="list-style-type: none"> - I can use talk to connect ideas, explain what is happening and anticipate what will happen next. - I notice detailed features of objects in my environment. - I am building up vocabulary that reflects the breadth of my experience. - I can capture experiences and responses with a range of media. 	<ul style="list-style-type: none"> - I can use talk to organise, sequence and clarify my thinking and ideas. - I can comment and ask questions about aspects of my familiar world such as where I live and the natural world. - I am extending my vocabulary, especially by grouping and naming objects. - I can create simple representations of events, people and objects. 	<ul style="list-style-type: none"> - I can develop my own narratives and explanations by connecting ideas or events (ELG). - I can talk about the features of my own immediate environment and how environments might vary from one another (ELG). - I can express my-self effectively when talking about events (ELG). - I can represent my own ideas, thoughts and feelings through using media and materials (ELG). 	<ul style="list-style-type: none"> - Speaking. - - The world. - Speaking. - Being Imaginative
Review	<ul style="list-style-type: none"> - I am beginning to understand 'why' and 'how' questions. - I am beginning to make links and notice patterns with support. 	<ul style="list-style-type: none"> - I can respond to ideas expressed by others in discussion. - I am beginning to make links and notice patterns. 	<ul style="list-style-type: none"> - I can answer 'how' and 'why' questions about my experiences (ELG). I am making links and noticing patterns in my experiences. 	<ul style="list-style-type: none"> - Understanding. - Creating & Thinking Critically.
Identify and Classsify	<ul style="list-style-type: none"> - I am developing an understanding of similarities, differences, patterns and change. - I am beginning to explore grouping, sequencing, cause and effect with support. 	<ul style="list-style-type: none"> - I can look closely at similarities, differences, patterns and change. - I am developing my ideas of grouping, sequencing, cause and effect. 	<ul style="list-style-type: none"> - I know about similarities and differences in relation to places, objects, materials and living things (ELG). - I can explore my ideas of grouping and sequencing. 	<ul style="list-style-type: none"> - The World. - Creating & Thinking Critically.

Working Scientifically KS1

	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	End of KS1 Expectations
	<p>Notes and guidance (non-statutory)</p> <ul style="list-style-type: none"> - Pupils in years 1 and 2 should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. - They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. - They should ask people questions and use simple secondary sources to find answers. - They should use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language. - These opportunities for working scientifically should be provided across years 1 and 2 so that the expectations in the programme of study can be met by the end of year 2. Pupils are not expected to cover each aspect for every area of study. 						
Plan	<ul style="list-style-type: none"> - I can explore the world around me using my senses and ask simple questions, with support. - I can with help begin to choose ways to try and answer a question. 	<ul style="list-style-type: none"> - I can explore the world around me using my senses and ask simple questions, independently. - I can with help begin to choose ways to try and answer a question. 	<ul style="list-style-type: none"> - I can explore the world around me using my senses and ask simple questions confidently. - I can with help begin to choose ways to try and answer a question. - With support, I can make suggestions for an investigation with 2 choices provided by my teacher. - I can explore a variety of ways to collect data. 	<ul style="list-style-type: none"> - I can explore the world around me using my senses and ask simple questions, with support recognise ways to find out the answer. - I can with help begin to choose ways to try and answer a question. - With support, I can make suggestions for an investigation with limited choices provided by my teacher. - I can make choices for how to collect data from suggestions given by my teacher. 	<ul style="list-style-type: none"> - I can explore the world around me using my senses and ask simple questions and begin to recognise ways to answer them. - I can with help begin to choose ways to try and answer a question. - With support, I can make suggestions for an investigation with increasing accuracy. - I can choose an appropriate way to collect data. - I can make a simple prediction with guidance.(ie Do you think it will float?). 	<ul style="list-style-type: none"> - I can confidently ask simple questions and recognise that they can be answered in different ways. - I can with help begin to choose ways to try and answer a question. - With support, I can confidently suggest ideas to plan an investigation. - I can make my own suggestions on how to collect data once the data needed has been outlined. - I can make a simple prediction (based on something they have observed before but without an explanation). 	<p>Statutory Requirements</p> <ul style="list-style-type: none"> - Asking simple questions and recognising that they can be answered in different ways.
Do	<ul style="list-style-type: none"> - I can make observations and direct comparisons. - I am beginning to measure using non standard units of measure e.g. hands, feet. 	<ul style="list-style-type: none"> - I can make observations and direct comparisons between 3 or more things. - I am beginning to measure using uniform non 	<ul style="list-style-type: none"> - I can make relevant observations related to the task or test. - I can confidently measure using uniform non standards units of measure. e.g. straws, 	<ul style="list-style-type: none"> - I can confidently make relevant observations related to the task using given equipment. - I am beginning to measure using simple standard units e.g. m, 	<ul style="list-style-type: none"> - I can make observations related to the task or test choosing from a limited range of equipment. - I can confidently measure using simple 	<ul style="list-style-type: none"> - I can make observations related to the task or test using appropriate equipment. - I can choose appropriate equipment to measure 	<ul style="list-style-type: none"> - Observe closely, using simple equipment perform simple tests.

	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	End of KS1 Expectations
	- With support, I can observe and copy a teacher led test.	standards units of measure. e.g. straws, cubes. - I can observe and copy a teacher led test.	cubes. - I can carry out a test from 2 given choices of variables and equipment.	ml, g. - I can carry out a simple test using the limited choices of equipment and variables given to me by the teacher.	standard units e.g. m, ml, g. - I can select equipment and variables to carry out a simple test with support.	during simple tests. - I can confidently perform simple tests.	
Record	- I can draw pictures of results/ take photos.	- I can help the teacher make a class table or chart.	- I can make practical block graphs /pictograms/ Venn diagrams etc. - With support, I can put data into a table template.	- With support I can record my data in an appropriate way e.g. Venn diagram, table or chart. - With support, I can put an increased amount of information into a table template.	- With support I can make a block chart, Carroll diagram, Venn diagram, flow chart, table etc. - With support, I can draw and complete a simple table.	- I can make/draw a block graph with a 1:1 scale on my own. - I can draw and complete a simple table.	- Gather and record data to help in answering questions.
Review	- I can spot and describe similarities and differences.	- I am beginning to use observations to describe what has changed when observing objects, living things or events.	- I can use observations to describe what has changed when observing objects, living things or events.	- I can respond to prompts to describe what has happened in more detail.	- I can say whether what I observed was what I expected to happen.	- I can use my observations and ideas to suggest answers to questions.	- Use their observations and ideas to suggest answers to questions.
Identify and Classify	- I can answer simple yes/no questions about a mystery object I have chosen.	- I can sort and group in own way using both observable and behavioural features even when differences are slight.	- I can explain where further additional items could be placed in a sorting/grouping task.	- I can, with support, use simple Venn diagrams to help sort things and record the groupings.	- I can, use simple Venn diagrams to help sort things and record the groupings.	- I can sort and record into two groups in which one group has a feature and the other doesn't (Carroll Diagrams).	- Identifying and classifying compare observable and behavioural features of living things, materials and objects.

Working Scientifically LKS2

	Step 10	Step 11	Step 12	Step 13	Step 14	Step 15	End of LKS2 Expectations
	<p>Notes and guidance (non-statutory)</p> <ul style="list-style-type: none"> - They should learn how to use new equipment, such as data loggers, appropriately. They should collect data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data. - With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data they have collected and finding ways of improving what they have already done. - They should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. - Pupils should use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences. - These opportunities for working scientifically should be provided across years 3 and 4 so that the expectations in the programme of study can be met by the end of year 4. Pupils are not expected to cover each aspect for every area of study. 						
Plan	<ul style="list-style-type: none"> - I can ask relevant scientific questions, with help. - I can explore the concept of a fair test with guidance from my teacher. - I can understand that equipment is needed to collect different types of data. - I am beginning to understand different types of data can be collected for the enquiry taking place. - I can make simple predictions using my prior life experience, with support. 	<ul style="list-style-type: none"> - I can begin to choose ways to try and answer a question, using given suggestions. - I can recognise when a scientific enquiry is unfair. - I can say what equipment is needed from a limited selection, with support. - I can understand that different types of data can be collected for the enquiry which is taking place. - I can make a simple prediction using my prior life experience. 	<ul style="list-style-type: none"> - I can ask relevant scientific questions. - I can recognise when a scientific enquiry is unfair and explain why. - I can select and use the most appropriate equipment needed for an enquiry. - I can suggest the type of data needed to be collected, with support. - I can make a simple prediction using my prior scientific knowledge and understanding. 	<ul style="list-style-type: none"> - I can ask relevant scientific questions and start to think about ways to answer them. - I can recognise when a scientific enquiry is fair or unfair and explain why. - I can select and use the most appropriate equipment needed for an enquiry. - I can suggest the type of data needed to be collected. - I can make a simple prediction using my prior scientific knowledge and understanding, with support begin to explain them. 	<ul style="list-style-type: none"> - I can use reasoning to choose ways to answer a question. - I can suggest ways of making the test fair or if it can't be fair, answer it by looking for a pattern. - I can select and use the most appropriate equipment needed for an enquiry. - I can suggest the type of data needed to be collected. - I can make simple predictions and start to explain why I have made them. 	<ul style="list-style-type: none"> - I can choose ways to independently try and answer a question using my knowledge and understanding of science and I can ask questions based on observations. - I can set up a fair test and explain why it is fair. - I can confidently say what equipment is needed, from a selection, to carry out an enquiry. - I can competently suggest the type of data needed to be collected. - I can make simple predictions and give an explanation based on my everyday experiences and knowledge. 	<p>Statutory Requirements</p> <ul style="list-style-type: none"> - Asking relevant questions and using different types of scientific enquiries to answer them. - Setting up simple practical enquiries, comparative and fair tests.

	Step 10	Step 11	Step 12	Step 13	Step 14	Step 15	End of LKS2 Expectations
Do	<ul style="list-style-type: none"> - I can use and begin to read scales on a variety of measuring equipment e.g. Newton metres, beakers, rulers, stop watches, syringes and data loggers. - I can measure to the nearest whole unit. - I have an awareness of simple standard measures; m, cm, mm, kg, g, cm³, minutes, seconds, Newtons. - I can use a data logger to take accurate measurements, with guidance. - I can start to make my own decisions about the most appropriate type of scientific enquiry to use to answer questions and carry it out. - I can start to make decisions about what observations to make and how long to make them for and carry it out. - I can start to recognise when a simple fair test is necessary, with guidance. - I know how to use a magnifying glass effectively (by holding it near to the object, not my eye). 	<ul style="list-style-type: none"> - I can use and begin to read scales on a variety of measuring equipment e.g. Newton metres, beakers, rulers, stop watches, syringes and data loggers. - I can measure to the nearest whole unit and begin to recognise half units. - I can start to read labeled scales to the nearest division on a variety of measuring equipment. - I can make systematic careful measurements using a data logger, with support. - I can make my own decisions about the most appropriate type of scientific enquiry to use to answer questions and carry it out. - I can make decisions about what observations to make and how long to make them for and carry it out. - I can start to recognise when a simple fair test is necessary, 	<ul style="list-style-type: none"> - I can begin to read labeled scales to the nearest division and I have started to read unlabeled scales. - I can confidently measure to the nearest whole or half unit. - I can use simple standard measures; m, cm, mm, kg, g, cm³, minutes, seconds, Newton. - I can make systematic careful measurements using a data logger. - I can continue to make my own decisions about the most appropriate type of scientific enquiry to use to answer questions and carry it out. - I can continue to make decisions about what observations to make and how long to make them for and carry it out. - I can recognise when a simple fair test is necessary independently. 	<ul style="list-style-type: none"> - I can read labeled scales to the nearest division and I have started to read unlabeled scales. - I can measure to the nearest whole and half or mixed units with support. - With increasing accuracy, I can use simple standard measures; m, cm, mm, kg, g, cm³, minutes, seconds, Newtons. - With support, I can start to make decisions about which simple standard measures are appropriate to use; m, cm, mm, kg, g, cm³, minutes, seconds, Newtons. - I can make systematic careful measurements using a data logger. - I can continue to make my own decisions about the most appropriate type of scientific enquiry to use to answer questions and carry it out. - I can continue to make decisions about what observations to make and how long to make them for and carry it out. - I can carry out a preplanned fair test with support - I can use a thermometer correctly (hold the top, not the bulb at the bottom). 	<ul style="list-style-type: none"> - I can read labeled scales to the nearest division and I have started to read unlabeled scales. - I can measure to the nearest whole or half unit or mixed units. - With increasing accuracy, I can use simple standard measures; m, cm, mm, kg, g, cm³, minutes, seconds, Newtons. - I can start to make decisions about which simple standard measures are appropriate to use; m, cm, mm, kg, g, cm³, minutes, seconds, Newtons. - I can make systematic careful measurements using a data logger. - I can continue to make my own decisions about the most appropriate type of scientific enquiry to use to answer questions and carry it out. - I can continue make decisions about what observations to make and how long to make them for and carry it out. - I can carry out a fair test that I have planned, with support. 	<ul style="list-style-type: none"> - I can confidently read scales to the nearest division labeled and unlabeled. - I can confidently measure to the nearest whole or half unit or mixed units. - With increased accuracy, I can use simple standard measures; m, cm, mm, kg, g, cm³, minutes, seconds, Newtons. - I can make decisions about which simple standard measures are appropriate to use; m, cm, mm, kg, g, cm³, minutes, seconds, Newtons. - I can make systematic careful measurements using a data logger. - I can confidently make my own decisions about the most appropriate type of scientific enquiry to use to answer questions and carry it out. - I can confidently make decisions about what observations to make and how long to make them for and carry it out. - I can carry out a fair test that I have planned, ensuring that I change only the necessary variables. 	<ul style="list-style-type: none"> - Make systematic and careful observations and where appropriate take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

	Step 10	Step 11	Step 12	Step 13	Step 14	Step 15	End of LKS2 Expectations
Record	<ul style="list-style-type: none"> - I can draw and complete a simple 2 column table including headings. - I can draw a simple bar chart with a 1:1, with guidance. - I can use simple scientific language when recording from given prompts. - I can use simple scientific drawings, keys and labelled diagrams when recording with given prompts. 	<ul style="list-style-type: none"> - I can discuss and select the most appropriate table for the task to record my findings. - I can draw a simple bar chart with a 1:1 scale, and 1:2 scale with guidance. - I can use simple scientific language, when recording, with increasing accuracy. - I can use simple scientific drawings, keys and labelled diagrams when recording with increasing complexity. 	<ul style="list-style-type: none"> - I can discuss and select the most appropriate table for the task to record my findings. - I can draw a simple bar chart with a 1:1 and 1:2 scale independently. - I can continue to use simple scientific language, when recording, with increasing accuracy. - I can continue to use simple scientific drawings, keys and labelled diagrams when recording with increasing complexity. 	<ul style="list-style-type: none"> - I can discuss and select the most appropriate table for the task to record my findings. - I can draw a simple bar chart with a 1:1, 1:2 scale independently and 1:10 scale, with guidance. - I can continue to use simple scientific language, when recording, with increasing accuracy. - I can continue to use simple scientific drawings, keys and labelled diagrams when recording with increasing complexity. 	<ul style="list-style-type: none"> - I can discuss and select the most appropriate table for the task to record my findings. - I can draw a simple bar chart with a 1:1, 1:2 and 1:10 scale independently and 1:5 scale, with guidance. - I can continue to use simple scientific language, when recording, with increasing accuracy. - I can continue to use simple scientific drawings, keys and labelled diagrams when recording with increasing complexity. 	<ul style="list-style-type: none"> - I can discuss and select the most appropriate table for the task to record my findings. - I can draw simple bar charts with 1:1, 1:2, 1:5 and 1:10 scale. - I can confidently use simple scientific language when recording. - I can confidently use simple scientific drawings, keys and labelled diagrams when recording with increasing complexity. - I can begin to plot a line graph, with support. 	<ul style="list-style-type: none"> - Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
Review	<ul style="list-style-type: none"> - I can say what I have found out and give an explanation for observations and simple patterns based on everyday experience - With support, I can use results to draw simple conclusions and comment on these. - I can identify clear differences, similarities or changes related to simple scientific ideas and processes. 	<ul style="list-style-type: none"> - I can report my findings in a variety of ways giving an explanation for observations and simple patterns based on everyday experience - With support, I can use results to draw simple conclusions and begin to make simple predictions. - I can identify clear differences, similarities or changes related to simple scientific ideas and processes. 	<ul style="list-style-type: none"> - I can report my findings in an appropriate way and explain what I have found out with a simple guided conclusion. - With limited support, I can use results to draw simple conclusions and begin to make simple predictions. - I can identify most clear differences, similarities or changes related to simple scientific ideas and processes. 	<ul style="list-style-type: none"> - I can report my findings in an appropriate way and explain what I have found out with a simple conclusion. - I can independently use results to draw simple conclusions, make simple predictions and, with guidance, raise further questions. - I can begin to identify subtle differences, similarities or changes related to simple scientific ideas and processes. 	<ul style="list-style-type: none"> - I can report my findings in an appropriate way and explain what I have found out with a simple conclusion, suggesting improvements - I can independently use results to draw simple conclusions, make simple predictions and, with guidance, raise further questions and suggest improvements. - I can identify subtle differences, similarities or changes related to simple scientific ideas and processes. 	<ul style="list-style-type: none"> - I can report my findings in an appropriate way and explain what I have found out with a simple conclusion, suggesting improvements and raise further questions. - I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. - I can identify subtle 	<ul style="list-style-type: none"> - Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings.

	Step 10	Step 11	Step 12	Step 13	Step 14	Step 15	End of LKS2 Expectations
	- I can use straightforward scientific evidence to answer questions with guidance.	- I can use straightforward scientific evidence to answer questions with guidance.	- I can use straightforward scientific evidence to answer questions or to support findings with guidance.	- I can use straightforward scientific evidence to answer questions or to support findings with guidance.	- I can use straightforward scientific evidence to answer questions or to support findings.	differences, similarities or changes related to simple scientific ideas and processes. - I can confidently use straightforward scientific evidence to answer questions or to support findings.	
Identify and Classify	- I can use Carroll and Venn diagrams to help sort things and record the groupings, sometimes re-sorting using different criteria. - I can use simple branching data bases or classification keys for a few (3-6) things with easily observable differences, with support.	- I can use Carroll and Venn diagrams to help sort things and record the groupings, sometimes re-sorting using different criteria. - I can independently use simple branching data bases or classification keys for a few (3-6) things with easily observable differences.	- I can use Carroll and Venn diagrams to help sort things and record the groupings, sometimes re-sorting using different criteria. - I can confidently use simple branching data bases or classification keys for a few (3-6) things with easily observable differences.	- I can use Carroll and Venn diagrams to help sort things and record the groupings, sometimes re-sorting using different criteria. - I can use and start to make simple branching data bases or classification keys for a few (3-6) things with easily observable differences.	- I can use Carroll and Venn diagrams to help sort things and record the groupings, sometimes re-sorting using different criteria. - I can use and make simple branching data bases or classification keys for a few (3-6) things with easily observable differences.	- I can use Carroll and Venn diagrams to help sort things and record the groupings, sometimes re-sorting using different criteria. - I can confidently use and make simple branching data bases/ classification keys for a few (3-6) things with easily observable differences.	- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.

Working Scientifically UKS2

	Step 16	Step 17	Step18	Step 19	Step 20	Step 21	End of UKS2 Expectations
<p>Notes and guidance (non-statutory)</p> <p>Pupils in years 5 and 6 should use their science experiences to:</p> <ul style="list-style-type: none"> - explore ideas and raise different kinds of questions; select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. - They should use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment. - They should 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 to make measurements and explain how to use it accurately. - They should decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas. - They should use their results to identify when further tests and observations might be needed; recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact. - They should use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time. <p>N.B. <i>These opportunities for working scientifically should be provided across years 5 and 6 so that the expectations in the programme of study can be met by the end of year 6. Pupils are not expected to cover each aspect for every area of study.</i></p>							
<p>Plan</p>	<ul style="list-style-type: none"> - With guidance, I am aware of a variety of types of scientific questions. - I can choose the most appropriate scientific enquiry method from a given choice, to answer a question. - I can list all the equipment needed after discussion within a group. - I can decide what data to collect. - I can begin to make predictions based on scientific knowledge after whole class discussion. 	<ul style="list-style-type: none"> - I can ask scientific questions after an observation I have made. - I can begin to choose the most appropriate scientific enquiry method to answer a question and begin to outline the method. - I can confidently decide what data to collect. - I can begin to make predictions based on scientific knowledge. 	<ul style="list-style-type: none"> - I can ask scientific questions after an observation I have made. - I can confidently decide what data to collect and explain why. - I can make predictions based on scientific knowledge independently. 	<ul style="list-style-type: none"> - I can ask scientific questions after an observation I have made. - I can choose the most appropriate scientific enquiry method to answer a question and with guidance, outline the method. - I can independently list all the equipment needed. - I can confidently decide what data to collect and explain why. - I can make predictions based on scientific knowledge and explain why. 	<ul style="list-style-type: none"> - I can ask a variety of scientific questions after an observation I have made. - I can choose the most appropriate scientific enquiry method to answer a question and with guidance, outline the method. - I can decide what data to collect and begin to think about how much of it is needed. - I can make predictions based on scientific knowledge and explain why. 	<ul style="list-style-type: none"> - I can confidently ask a variety of relevant types of scientific questions. - I can choose the most appropriate scientific enquiry method to answer a question and outline the method in detail. - I can confidently and independently list all the equipment needed. - I can confidently decide what data to collect and how much of it is needed to gain more reliable results. - I can make predictions based on scientific knowledge and explain why confidently. 	<p>Statutory requirements</p> <p>- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p>

	Step 16	Step 17	Step 18	Step 19	Step 20	Step 21	End of UKS2 Expectations
Do	<ul style="list-style-type: none"> - I can begin to make a series of measurements adequate for the task. - I can understand that different measuring equipment is suitable for different tasks. - I can begin to use standard measures, including use of fractions and mixed units. - I can confidently read scales to the nearest division, both labeled and unlabelled. - I can compare 4 or more things. - I can select apparatus and use it with care, following safety instructions. - I can start to repeat readings and begin to understand why this is important. 	<ul style="list-style-type: none"> - I can make a series of measurements adequate for the task. - I can select appropriate measuring equipment, with help. - I can begin to use standard measures, including use of fractions and mixed units. - I can confidently read scales to the nearest division, both labeled and unlabelled. - I can compare 4 or more things. - I can select apparatus, use it with care and begin to understand how to use it safely. - I can repeat readings and understand their importance. 	<ul style="list-style-type: none"> - I can make a series of measurements adequate for the task. - I can begin to independently select appropriate measuring equipment. - I can use standard measures, including use of fractions and mixed units. - I can read scales with increased accuracy. - I can compare 4 or more things. - I can select apparatus and use with care and use it safely. - I can repeat readings and find averages. 	<ul style="list-style-type: none"> - I can make a series of measurements adequate for the task. - I can select appropriate measuring equipment independently and begin to explain why. - I can use standard measures, including use of fractions, mixed units and begin to use decimals to one place. - I can accurately read scales appropriate to the task. - I can compare 5 or more things. - I can select apparatus appropriate to the task with guidance and use it safely. - I can repeat readings and find averages. 	<ul style="list-style-type: none"> - I can make a series of measurements adequate for the task independently. - I can select appropriate measuring equipment independently and explain why. - I can use standard measures, including use of fractions, mixed units and decimals to one place with increasing confidence. - I can accurately read scales appropriate to the task. - I can compare 5 or more things. - I can select apparatus and use with care and use safely under guidance. - I can repeat readings and find averages to make up for anomalies. 	<ul style="list-style-type: none"> - I can make a series of accurate measurements adequate for the task independently and confidently. - I can independently select appropriate measuring equipment for the task and confidently explain why. - I can use standard measures, including use of fractions, mixed units and decimals to one place confidently. - I can read scales with precision and accuracy appropriate to the task. - I can compare 5 or more things. - I can select apparatus appropriate to the task and use with care with an awareness of any safety issues. - I can repeat readings, find averages and explain their importance. 	<p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, take repeat readings when appropriate</p>

	Step 16	Step 17	Step 18	Step 19	Step 20	Step 21	End of UKS2 Expectations
Record	<ul style="list-style-type: none"> - I can present information in a variety of tables and with support, record repeated readings. - I can communicate data using a scatter graph, with support. - I can begin to plot a line graph with increasing accuracy. - I can use increasingly more complicated classification keys, with support. - I can draw simple bar charts with 1:1, 1:2, 1:5 and 1:10 scales. - I can record observations and measurements systematically, with support. 	<ul style="list-style-type: none"> - I can present information in a variety of tables and record repeated readings with some prompting. - I can communicate data using a scatter graph, with support. - I can plot a line graph with increasing accuracy. - I can use increasingly more complicated classification keys. - I can draw simple bar charts using a given scale. - I can record observations and measurements systematically, with support. 	<ul style="list-style-type: none"> - I can present information in a variety of tables and record repeated readings. - I can communicate data using a scatter graph, with support. - I can plot a line graph with increasing accuracy. - I can use increasingly more complicated classification keys. - I can draw simple bar charts using a given scale. - I am beginning to record observations and measurements systematically independently. 	<ul style="list-style-type: none"> - I can present information in a variety of tables and record repeated readings. - I can communicate data using a scatter graph, with support. - I can plot a line graph with increasing accuracy, using a variety of scales. - I can use increasingly more complicated classification keys. - I can draw simple bar charts with the most appropriate scale. - I am beginning to record observations and measurements systematically independently. 	<ul style="list-style-type: none"> - I can present information in a variety of tables and record repeated readings. - I can communicate data using a scatter graph, with support. - I can draw line graphs independently, using a variety of scales. - I can use a variety of simple and complex classification keys. - I can draw simple bar charts with the most appropriate scale. - I can record observations and measurements independently. 	<ul style="list-style-type: none"> - I can present information clearly in tables including for repeat readings. - I can communicate data using a scatter graph. - I can draw line graphs independently, possibly involving fractions and decimals. - I can use a variety of simple and complex classification keys. - I can draw bar graphs with more complex scales possibly involving fractions or decimals e.g. 1:2.5. - I can record observations and measurements systematically independently. 	<ul style="list-style-type: none"> - Record data and results of increasing complexity using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs.
Review	<ul style="list-style-type: none"> - I am beginning to use graphs to spot and interpret patterns/trends in results with support. - I can report my findings in an appropriate way and explain what I have found out with a simple conclusion, suggesting improvements, beginning to link it with scientific knowledge and understanding consistent with the evidence. - I am beginning to offer simple explanations for differences in repeated 	<ul style="list-style-type: none"> - I am gaining in confidence when using graphs to spot and interpret patterns/ trends in results. - I can draw conclusions using patterns and begin to relate conclusions and scientific knowledge and understanding consistent with the evidence, with support. - I am beginning to offer simple explanations for differences in repeated measurements/ observations with 	<ul style="list-style-type: none"> - I am gaining in confidence when using graphs to spot and interpret patterns/ trends in results. I can draw conclusions using patterns and begin to relate conclusions including, causal relationships and explanations, to scientific knowledge and understanding consistent with the evidence, with support. - I can offer simple explanations for differences in repeated measurements/ observations with support. 	<ul style="list-style-type: none"> - I can use graphs to spot and interpret patterns/trends in results with support. I can draw conclusions using patterns and begin to relate conclusions including, causal relationships and explanations, to scientific knowledge and understanding consistent with the evidence, with support. - I can offer simple explanations for differences in repeated measurements/ observations with support. 	<ul style="list-style-type: none"> - I can use graphs to spot and interpret patterns/trends in results, independently. I can draw conclusions using patterns and begin to relate conclusions including, causal relationships and explanations, to scientific knowledge and understanding consistent with the evidence, independently. - I can offer simple explanations for differences in repeated measurements/ observations independently. 	<ul style="list-style-type: none"> - I can use graphs to spot and interpret patterns/trends in results, independently. I can draw conclusions using patterns and begin to relate conclusion, including causal relationships and explanations to scientific knowledge and understanding consistent with the evidence, independently. - I can offer simple explanations for differences in repeated measurements/ observations independently. 	<ul style="list-style-type: none"> - Report and present findings from enquiries, including conclusions, causal relationships and explanations of results, explanations of the 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. - identify scientific evidence that has been used to support or refute ideas or arguments.

	Step 16	Step 17	Step 18	Step 19	Step 20	Step 21	End of UKS2 Expectations
	measurements/ observations with support.	support. - I can use test results to make predictions to set up further comparative and fair tests with support e.g. cars down a ramp.	- I can use test results to make predictions to set up further comparative and fair tests with support.	- I can use test results to make predictions to set up further comparative and fair tests with support.	- I can use test results to make predictions to set up further comparative and fair tests.	- I can use test results to make predictions to set up further comparative and fair tests.	
Identify and Classify				<p>- I am aware of the term kingdom and know that most scientists classify things into five kingdoms.</p> <p>- I can, through direct observations where possible, classify animals into vertebrates and invertebrates, with support.</p> <p>- I can make keys and branching databases with 4 or more items.</p> <p>- I can evaluate how well keys and databases work and make changes to improve them.</p> <p>- I can explain why it is important to classify and why it is useful to scientists.</p> <p>- I can begin to plan what to test, how to test and collect evidence in order to classify.</p>	<p>- I am aware of the term kingdom and know that most scientists classify things into five kingdoms.</p> <p>- I can, through direct observations where possible, classify animals into vertebrates and invertebrates, with support.</p> <p>- I can make keys and branching databases with 4 or more items.</p> <p>- I can evaluate how well keys and databases work and make changes to improve them.</p> <p>- I can explain why it is important to classify and why it is useful to scientists.</p> <p>- I can plan what to test, how to test and collect evidence in order to classify with support.</p>	<p>- I am aware of the term kingdom and know that most scientists classify things into five kingdoms.</p> <p>- I can, through direct observations where possible, classify animals into vertebrates and invertebrates.</p> <p>- I can make keys and branching databases with 4 or more items.</p> <p>- I can evaluate how well keys and databases work and make changes to improve them.</p> <p>- I can explain why it is important to classify and why it is useful to scientists.</p> <p>- I can plan what to test, how to test and collect evidence in order to classify.</p>	<p>- Be aware of the term kingdom and know that most scientists classify things into five kingdoms.</p> <p>- Through direct observations where possible classify animals into vertebrates and invertebrates.</p> <p>- Make keys and branching databases with 4 or more items.</p> <p>- Evaluate how well keys and databases work and make changes to improve them.</p> <p>- Explain why it is important to classify and why it is useful to scientists.</p> <p>- Plan what to test, how to test and collect evidence in order to classify.</p>