



Bledlow Ridge School Skills and Knowledge Progression

Science



EYFS
<ul style="list-style-type: none">• Children know about similarities and differences in relation to places, objects, materials and living things.• Children talk about the features of their own immediate environment and how environments might vary from one another.• Children describe shapes, spaces, and measures.• Children are able to talk about seasonal changes and link to their own lives.
National Curriculum Statutory Requirements – KS1
<ul style="list-style-type: none">• Ask simple questions and recognise that they can be answered in different ways.• Observe closely, using simple equipment.• Perform simple tests.• Identify and classify.• Use their observations and ideas to suggest answers to questions.• Gather and record data to help in answering questions
National Curriculum Statutory Requirements – Lower KS2
<ul style="list-style-type: none">• Ask relevant questions and use different types of scientific enquiries to answer them.• Set up simple practical enquiries, comparative and fair tests.• 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, 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• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.• Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.• Identify differences, similarities or changes related to simple scientific ideas and processes.• Use straightforward scientific evidence to answer questions or to support their findings
National Curriculum Statutory Requirements – Upper KS2
<ul style="list-style-type: none">• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.• Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs• Using test results to make predictions to set up further comparative and fair tests.



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- 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.
- Identify scientific evidence that has been used to support or refute ideas or arguments

Children in Early Years:			
Plan	Do	Record	Review
choose resources they need for their chosen activities & say when they do or don't need help	<ul style="list-style-type: none"> • know about similarities & differences in relation to places, objects, materials and living things • make observations of animals and plants • explore a variety of materials, tools & techniques, experiment with colour, design, texture, form & function. • select and use technology for particular purposes 	represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories	talk about the features of their own immediate environment and how environments might vary from one another explain why some things occur and talk about changes

PSTT Working Scientifically Skills Progression

Working Scientifically Y1 -Y6: Children working at the expected standard will ...					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plan: Ask Questions & Plan Enquiries					
<ul style="list-style-type: none"> • ask simple questions • know what they're trying to find out 	<ul style="list-style-type: none"> • ask range of simple questions • suggest ideas about how we might answer these questions 	<ul style="list-style-type: none"> • ask range of questions –eg. use question starters • use range of enquiry types to answer questions 	<ul style="list-style-type: none"> • use prior knowledge & experience to ask relevant questions. • try out own ideas to find the answer to questions – eg. choosing from given 	<ul style="list-style-type: none"> •ask scientific questions with support •begin to identify type of enquiry needed •plan enquiries, including recognising and controlling 	<ul style="list-style-type: none"> • ask scientific questions independently • plan enquiries, deciding on the most appropriate approach, making choices about equipment, what to



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		<ul style="list-style-type: none"> talk about different ways to find answers to questions 	secondary resources, observing over time	variables where necessary	observe, how often to take measurements etc.
Do: Set up Enquiries, Observe & Measure					
<ul style="list-style-type: none"> identify and classify. use their senses to make observations. observe closely, using simple equipment. compare what they observe. perform simple tests. 	<ul style="list-style-type: none"> identify, classify using range of criteria suggest equipment they could use to make observations measure using (non-) standard units 	<ul style="list-style-type: none"> set up simple practical enquiries and comparative/fair tests make careful observations & measurements using standard units, (eg. length, time, capacity or weight) talk about what makes a test fair 	<ul style="list-style-type: none"> carry out a fair test & explain why it was fair choose suitable equipment to measure data for experiments involving length, mass, time and temperature take accurate measurements, using a range of equipment, e.g. thermometers and data loggers 	<ul style="list-style-type: none"> begin to increase accuracy using repeat readings/bringing together class data take measurements, using a range of scientific equipment, with increasing accuracy 	<ul style="list-style-type: none"> take measurements using range of equipment, systematically with increasing accuracy and precision take repeat readings when appropriate recognise when to adapt plan – eg. take more frequent measurements, increase sample size
Record Results: Record data & Present results					
<ul style="list-style-type: none"> gather and record data to help in answering questions eg. labelling given diagram, using sorting rings, ordering photos. 	<ul style="list-style-type: none"> record data eg. using prepared tables, tally charts, drawings or text compare data and observations 	<ul style="list-style-type: none"> 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, Venn diagrams and tables 	<ul style="list-style-type: none"> record findings using relevant scientific language, drawings, diagrams, tables, keys and bar charts 	<ul style="list-style-type: none"> record data and results in range of ways (eg. scientific diagrams, labels, classification keys, tables, bar and line graphs) 	<ul style="list-style-type: none"> record data and results of increasing complexity using scientific diagrams and labels, classification keys, Venn & Carroll diagrams, tables, bar and pie charts, line and scatter graphs



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					<ul style="list-style-type: none"> • present data in different ways to help answer questions
Review: Interpret Results & Evaluate					
<ul style="list-style-type: none"> • say what they have found out. • use observations and experiences to suggest answers to questions. 	<ul style="list-style-type: none"> • use observations, ideas and scientific knowledge to suggest answers to enquiries • report what they have found out – identifying tallest, bounciest etc. from data 	<ul style="list-style-type: none"> • report on findings from enquiries, including oral and written displays or presentations of results • use results to answer questions • identify differences, similarities or changes related to simple, scientific ideas and processes. 	<ul style="list-style-type: none"> • use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests • use straightforward, scientific evidence to answer questions or to support their findings. • begin to identify patterns in data – using “the...er ,the ...er” statements when appropriate 	<ul style="list-style-type: none"> • report findings from enquiries, using results to draw conclusions. • present findings in oral & written forms, displays and presentations. • reflect on enquiries, noticing any improvements that could be made 	<ul style="list-style-type: none"> • report findings from enquiries, including oral and written explanations of results, including causal relationships, and conclusions. • identify and explain degree of trust in results • 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

Based on PSTT working scientifically progression, ASE working scientifically matrices and CIEC (Centre for Industry Education Collaboration)