Working Scientifically Statements
Lower KS2

Fair Testing

Plan	Do	Review
· I talk about links between cause and effect and (with help) pose a fair test question · I help to plan a fair test · I decide what data to collect · I decide what equipment to use and how to make observations	· I use a range of equipment to collect data using standard measures · I make records using tables and bar charts · I begin to use and interpret data collected through dataloggers	· I draw simple conclusions from my fair tests · I talk about, and explain, simple causal relationships using some scientific language · I suggest ways that I can improve my fair tests

Identifying and Classifying

Plan	Do	Review
· I talk about what criteria I will use to sort and classify things · I decide what equipment to use to identify and classify things · I talk about things that can be grouped and decide when questions can be answered by sorting and classifying	· I carry out simple tests to sort and classify according to properties or behaviour · I use Carroll diagrams, Venn diagrams and more complex tables to sort things · I use simple keys and branching databases to identify things · I make simple branching databases (keys) for things that have clear differences	· I draw simple conclusions about the things I have sorted and classified · I talk about the similarities and differences I identified using some scientific language · I suggest improvements to the way I so

Observing Over Time

Plan	Do	Review
I talk about things changing and decide when questions can be answered by observing over time · I decide what observations to make, how often and what equipment to use	I use a range of equipment to collect data using standard measures · I make records using tables and bar charts · I begin to use and interpret graphs produced by dataloggers	I draw simple conclusions from the changes I observed · I talk about changes using some scientific language · I suggest improvements to the ways I observe

Pattern Seeking

Plan	Do	Review
· I talk about where patterns might be found and decide when questions can be investigated by pattern seeking · I decide on which sets of data to collect, what observations to make and what equipment to use	· I use a range of equipment to collect data using standard measures · I make records using tables, bar charts or simple scatter graphs · I begin to use and interpret data collected through dataloggers	· I draw conclusions about simple patterns between two sets of data · I talk about patterns using some scientific language · I suggest improvements to the way I looked for patterns

Research

Plan	Do	Review
· I talk about how things are and the way they work and decide when questions can be answered by research using secondary sources	· I use information sources to find the information I need · I use someone else's data · I record what I found out in my own words · I present information in different ways	· I draw conclusions from what I found out from different sources · I talk about what the information and data means using some scientific language · I suggest ways to improve how I find out and use information

Upper KS2

Fair Testing

Plan	Do	Review
· I recognise when variables need to be controlled and when a fair test is the best way to answer my question · I plan a fair test, selecting the most suitable variables to measure, change and keep the same · I decide what equipment to use to make my measurements as accurate as possible	· I use equipment accurately to collect observations · I record data appropriately and accurately · I present data in line graphs · I identify causal relationships	· I draw valid conclusions based on the data · I recognise the significance of the results of fair tests · I talk about and explain causal relationships using scientific knowledge and understanding · I evaluate the effectiveness of my fair testing, recognising variables that were difficult to control

Identifying and Classifying

Plan	Do	Review
· I recognise when identifying and classifying will be helpful to answer my questions · I decide what equipment, tests and secondary sources of information to use to identify and classify things	· I use a series of tests to sort and classify materials · I use secondary sources to identify and classify things · I make my own keys and branching databases with 4 or more items · I use more than one piece of scientific evidence to identify and classify things	· I draw valid conclusions when sorting and classifying · I recognise the significance of sorting and classifying · I talk about and explain what I have done using scientific knowledge · I evaluate how well my keys worked

Observing Over Time

Plan	Do	Review
I recognise when observing changes over time will help to answer my questions · I decide how detailed my observations need to be, and what equipment to use, to make my measurements as accurate as possible	· I use equipment accurately without support · I record data appropriately · I present data in line graphs · I interpret changes in the data · I recognise the effect of changing the time and number of observations	I draw valid conclusions from data about changes · I recognise the significance of things changing over time · I talk about and explain changes using scientific knowledge and understanding · I evaluate how well I observed over time

Pattern Seeking

Plan	Do	Review
· I recognise when variables cannot be controlled and when pattern seeking will help to answer my question · I decide how detailed my data needs to be, and which equipment to use, to make my measurements as accurate as possible	· I use equipment accurately to collect observations · I record data appropriately and accurately · I present data in scatter graphs and frequency charts · I recognise patterns in results · I recognise the effect of sample size on reliability	· I draw valid conclusions from data about patterns and recognise their limitations · I recognise the significance of relationships between sets of data · I talk about and explain cause and effect patterns using scientific knowledge and understanding · I evaluate how well I looked for patterns

Research

Plan	Do	Review
I recognise when research using secondary sources will help to answer my questions · I decide which sources of information might answer my questions	· I use relevant information and data from a range of secondary sources · I recognise how data has been obtained · I start to notice when information and data is biased or based on opinions rather than facts · I present my findings in suitable formats	· I draw valid conclusions from my research · I talk about and explain my research using scientific knowledge and understanding · I evaluate how well my research has answered my questions · I recognise that some scientific questions may not have been answered definitively