

## National curriculum statutory requirements

Pupils should be taught to use the following practical scientific methods, processes and skills:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording 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
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments

## Key vocabulary and expectations

<b>Scientific language</b>	Children can read, spell, use and pronounce scientific vocabulary accurately.
<b>Questioning</b>	Children <b>plan</b> and carry out different types of <b>scientific enquiries</b> to answer questions
<b>Testing</b>	Children can identify and control <b>variables</b> (things which can be changed) to ensure a <b>fair test</b> .
<b>Observing and measuring</b>	Children make their own decisions about what <b>observations</b> to make, length/frequency of observations and use of <b>equipment</b> . Children make measurements with increasing accuracy and take <b>repeated measurements</b> where appropriate.
<b>Identifying and classifying</b>	Children can use and develop <b>classification keys</b> .
<b>Data handling</b>	Decide how to collect, record and represent <b>data</b> of increasing complexity in a variety of different ways. Children can identify <b>causal relationships</b> in their data.
<b>Reporting</b>	Children can present their findings and <b>conclusions</b> in a variety of different ways and are able to justify their scientific ideas with <b>evidence</b> . They can <b>evaluate</b> tests and use results to suggest linked investigations and <b>predict</b> further outcomes.

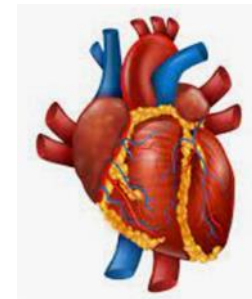
What will happen if we add more batteries to a circuit?



How can we control the **variables** to ensure a **fair test**?

How can we **measure** the impact of the change?  
Can we identify any **causal relationships**?

What **scientific enquiries** would help us explain the link between lifestyle and heart health?



What could we measure?

Why might we take **repeated measurements**?



Can we create a **classification key**?

What scientific evidence supports your argument?