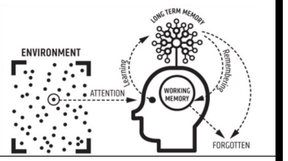
Lanercost C of E Primary School
Science Knowledge Organiser
Physics, Biology and Chemistry



Year 5 and 6	Autumn 2	Science Unit	Strong Start

The **key vocabulary** taught during this half term of Science sessions will appear in **highlighted black.** Frequent revisiting of this knowledge will aid fluency in Science.

In this unit, we are focusing on: being able to answer:	Recognising and controlling variables in a fair test	drawing and explaining conclusions	measuring accurately

Summary of the process

Raise a question to investigate. → Identify the independent variable. → Identify the dependent variable. → Identify the constants. → Plan and carry out the investigation.

Recognising and controlling variables in a fair test.

As scientists we need to answer questions. One way to do this is to carry out **fair tests**.

In a fair test, we observe and measure how changing one **variable** affects another variable. All other variables must be kept the same. These are called **constants**.

By controlling variables, it is more likely that our data will be valid and that conclusions can be drawn.

The **constants** are the variables that we keep the same throughout the investigation. This means that any changes to the dependent variable observed or measured can be attributed to the variable we changed (the independent variable).

The **independent variable** is the variable that I change each time. A good way to remember this is that independent begins with 'I'. It is the variable that **I** change.

The **dependent variable** is the variable that I measure to assess the effect of changing the independent variable.

Scientists need to be able to take accurate measurements using a variety of instruments.

Drawing and Explaining Conclusions.

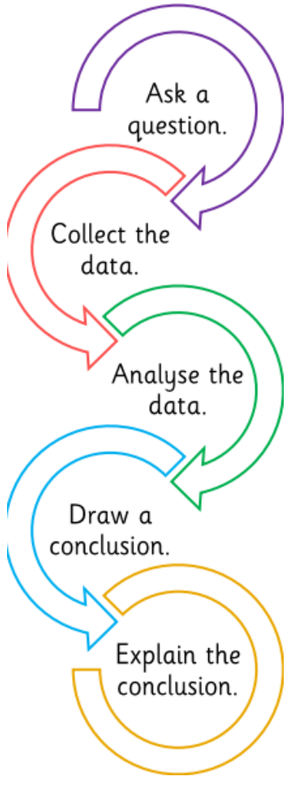
The scale on a measuring instrument allows accurate readings to be taken. The value of the increments on a scale will differ between instruments.

When measuring, it is important to be accurate. Scientists will take a measurement **at least twice** to make sure that it is accurate.

Measuring instruments usually have:
- numbers
- units of measurement
- subdivided increments.

When taking a reading from a measuring instrument, it is important to first work out the value of the increments.

Measuring Accurately



The conclusion drawn following an investigation should be **consistent** with the data and concise.

Once a conclusion has been drawn, scientists try to explain what was found out based on their scientific knowledge and understanding.