

KNOWLEDGE ORGANISER - Literacy

Key Word	Definition
accuracy	A measurement is accurate if it is close to the true value
data	Information that has been collected. Data could be qualitative (described using words e.g universal indicator has turned blue) or quantitative (described using numbers e.g. the alkali is at pH 9)
anomalies	Values that you have collected that do not fit the pattern that you have observed. These could be due to error.
fair test	An experiment where only the independent variable has been allowed to affect the dependent variable.
precise	Precise measurements are very similar to the mean value.
range	The maximum and minimum values recorded e.g. from 5cm to 55cm
repeatable	If the same person can follow the same method to obtain the same results.
reproducible	If another person, or the same person using different equipment or techniques, can obtain the same results by repeating an investigation.
resolution	The smallest change in the value being measured by a piece of equipment that can give a change in the reading e.g. rulers have a resolution of 1mm.
variables	Factors that can change in an experiment. An investigation will have an independent, a dependent and control variables.

Example investigation: Investigating how changing the height of a ramp affects the time taken for a car to travel down the ramp.

In an investigation there will be three types of variables:

Independent variable: The thing that you choose to change in an investigation.

E.g. The height of a ramp

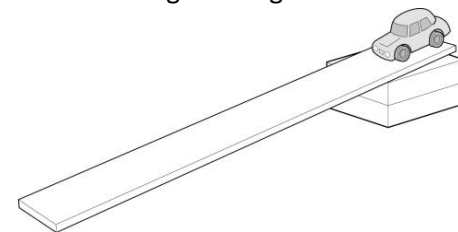
There will only be **one** independent variable in a fair test

Dependent variable: The thing that you are measuring in an investigation

e.g. the time taken for the car to travel down a ramp

Control variables: These are kept the same as they could affect the results of the investigation. There will be several control variables in an investigation e.g.

- The length of the ramp
- The material the ramp is made of
- The material of the tyres on the car



The diagram shows the difference between values that are accurate and precise. In an experiment, scientists want their results to be both accurate (close to the true value) and precise (close to the mean average).

