CIE Chemistry A-Level

4.2.2 - Practical Skills for Paper 3
Presentation of Data and Observations

Flashcards

What is the most common form of recording observations in chemistry?

What is the most common form of recording observations in chemistry?

Data tables

Where should the units of measurement be placed in the data table?

Where should the units of measurement be placed in the data table?

In the column headings.

How are the independent and dependent variables set up in the table?

How are the independent and dependent variables set up in the table?

The independent variable is always in the first column of the table and the dependent variable is in the next column(s).

Why are tables a good method of displaying qualitative data?

Why are tables a good method of displaying qualitative data?

They allow all the observations to be easily recorded and analysed.

What degree of precision should results be given to?

What degree of precision should results be given to?

The degree of precision should reflect the measuring apparatus' resolution.

E.g. If a measuring cylinder has a resolution of 1.0 cm^3, volumes should be recorded to the nearest 0.5 cm^3.

How many significant figures should calculated results be given to?

How many significant figures should calculated results be given to?

The same number of significant figures as (or one more than) the least accurate measured quantity.

What type of data is suitable for displaying on a graph?

What type of data is suitable for displaying on a graph?

Quantitative data

Why are graphs often used to display data?

Why are graphs often used to display data?

They clearly show patterns and trends in the data and make anomalous results easy to identify.

How can an anomalous result be identified from a scatter diagram?

How can an anomalous result be identified from a scatter diagram?

The anomalous data value will fall outside the trend of all the other data values and will not lie on/near the line of best fit.

For a graph of results, which axis do the independent and dependent variables go on?

For a graph of results, which axis do the independent and dependent variables go on?

Dependent variable - vertical y axis

Independent variable - horizontal x axis

When plotting a graph, what key points should be remembered?

When plotting a graph, what key points should be remembered?

- Draw in pencil and use a ruler

- Must fill at least half the available space

- Appropriate scale must be used

- Label axes (including units)

- Plot each point as a cross

- Draw a ring around outliers

- Draw a line/curve of best fit

How can the gradient of a straight line graph be calculated?

How can the gradient of a straight line graph be calculated?

Gradient = change in y ÷ change in x

How must a line of best fit be drawn?

How must a line of best fit be drawn?

A sharp pencil must be used.

If the trend is a straight line, a ruler must be used to draw a continuous straight line through the values.

If the trend is a curve, a continuous freehand curve must be drawn, connecting all the data values.