Tabulating data

It is important to keep a record of data whilst carrying out practical work. Tables should have clear headings with units indicated using a forward slash before the unit.

Time / min	Temperature / ^{o}C
0	14.8
1	14.7
2	14.6

Although using a forward slash is the standard format, other formats are generally acceptable. For example:

Volume in cm^3	Time taken in s
15	23
25	45
35	56

Concentration (mol dm^{-3})	Time (s)
1.0	152
1.5	93
2.0	54

It is good practice to draw a table before an experiment commences and then enter data straight into the table. This can sometimes lead to data points being in the wrong order. For example, when studying the pH change in an acid-base titration, a student may do a number of pH measurements at 10, 20, 25, 30 and 35 cm^3 of reagent added, and then investigate the area between 20 and 30 further by adding readings at 22, 24, 24.5, 25, 25,5, 26, 28. Whilst this is perfectly acceptable, it is generally a good idea to make a fair copy of the table in ascending order of temperature to enable patterns to be spotted more easily. Reordered tables should follow the original data if using a lab book, data should not be noted down in rough before it is written up.

It is also expected that the independent variable is the left hand column in a table, with the following columns showing the dependent variables. These should be headed in similar ways to measured variables. The body of the table should not contain units.

Tabulating logarithmic values

When the logarithm is taken of a physical quantity, the resulting value has no unit. However, it is important to be clear about which unit the quantity had to start with. The logarithm of a time in seconds will be very different from the logarithm of the same time in minutes.

These should be included in tables in the following way:

Reading number	time / s	log (time/s)
1	2.3	0.36
2	3.5	0.54
3	5.6	0.75