GENERAL RESOURCES

A good practical report

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A good practical report is one which is set out methodically and conforms to a format that makes it possible for any other person to repeat the experiment/investigation without having to guess any steps. A practical report should be written in the third person and in the past tense (e.g. 'The water was measured. . .').

Remember to include diagrams of apparatus and how the apparatus was arranged. Data should be presented in a table and graphs used where possible. The results and observations section should contain as complete a record as possible and even include observations of events which were not expected. Where possible, include original results from the experiment (e.g. print-outs).

The following section headings should be used in the report.

- AIM—a *brief* statement of the purpose of the experiment; what it is that the experiment is setting out to discover.
- HYPOTHESIS—an educated guess as to the outcome of the investigation. It is important to state this in the third person—not 'I think that. . .' but rather 'The water will boil at 100°C'. It must relate to the aim, stated previously.
- APPARATUS—a list of the special equipment required. There is no need to list absolutely everything. If a Bunsen burner is used, it is assumed that a match or a gas lighter were used.
- METHOD—this must be sufficiently detailed so that the experiment can be repeated exactly, without having been seen. It should be in concise point form, in the third person, past tense and (however, junior classes may be excused from this) in report-style language. The amount of detail should be left to common sense. If water was boiled, it is sufficient to say 'The water was brought to the boil'. We assume that the Bunsen burner was lit according to normal procedures.
- DIAGRAM—a clear scientific diagram (not a sketch) using a ruler and a pencil with labelling is usually required (see 'Drawings in biology' on this CD).
- RESULTS and OBSERVATIONS—data should be presented in a table. Charts and graphs, where appropriate, should be clear and large using graph paper. All observations made during the investigation should be recorded here. Calculations or manipulation of data or information should be done at this stage.
- DISCUSSION—answer questions and discuss if the experiment was suitable. The suitability of the experiment should be addressed by assessing the reliability, accuracy and validity (see 'Validity, reliability, accuracy and precision' on this CD). Also discuss what modifications need to be made by changing the method or apparatus and compare the results with accepted values (if possible).

- CONCLUSION—it should be brief, stating in summary the outcome of the investigation in relation to the hypothesis. Read the aim and the hypothesis again before writing the conclusion. If the experiment did not support the hypothesis it is just as valid as if it had supported the hypothesis. If the experiment was inconclusive, say so.