**You are expected to read/view and engage with these materials as part of the practical component.**

**Experimental Write Up**

The forensic science laboratory experience is not finished when you complete the experimental procedure and leave the laboratory. All scientists must prepare a written report of the results of experimental work. This record should be completed in a clear, concise and accurate manner.

To facilitate subsequent production of your written report, procedural details, observations and results must be recorded in a laboratory notebook whilst the experiment is being performed. The notebook should be a durable book, preferably with the ability to plot/sketch graphs as work progresses. It is advisable to use the right‑hand pages for recording results and use the left-hand pages for notes, calculations etc. This information may then be used as a record to compile your formal report.

The following (sectionalised) outline may be used for each formal report write-up. Some of your reports may be formative and others summative. The basic outline of your report should follow that required by most research journals. Head your report with your name, date and title (it is good practice in Forensic Science to have these details as a header on **EACH** page). You should typically sectionalise your report as follows:

**1. Abstract**

The abstract is a short summary, less than 100 words, of the experiment which has been conducted. It should contain all the essential information about the experiment but not fine experimental detail. It should be readable as an independent piece of writing. The abstract generally will contain details of the purpose of the experiment, a brief statement of the methods (without experiemtal detail) used in the investigation, a summary of the all important results, and the conclusion/s drawn from those results.

**2. Introduction**

This section begins with three or four sentences stating the objective or purpose of the experiment followed by a brief discussion of the theory behind the experiment/s. It may also include a brief description of a new technique or method. Any references cited in this section (using Harvard style) should be listed at the end of the write up.

If the introduction has been written for you in your practical handout then it will be sufficient to write “The Introduction is described in the practical booklet” under this heading and reference this, unless you are specifically instructed otherwise by your tutor, in which case you may be required to write your own introduction.

1. **Experimental**

List all reagents,materials and instrumentation used in the experiment. This is followed by a experimental procedure which should be given in sufficient detail so that another scientist can accurately follow the procedure. You should write in an impersonal manner, i.e. third person, paste tense. Again, if the full experimental details have been given to you already then you can write “As described in the practical booklet” under this heading and include the reference, unless instructed otherwise by your tutor in which case you shoukld write the experimental section yourself.

**4. Results and Discussion (include example calculations where appropriate)**

In writing this section you should ask yourself "Did I achieve the proposed objective" and "What is the significance of the data". Where possible, explain your results in terms of known theory (with suitable references). If problems were encountered in the experiment, these should be discussed with possible remedies for future experiments. You should include:

(i) Record of all raw data.

(ii) Present data in tables (these may go in an appendix if appropriate),

graphs or figures when appropriate.

(iii) Method of calculation and statistical analysis where appropriate.

(iv) Compare results with known values (if possible).

(v) Discuss the significance of the data, in terms of known theory where possible.

(vi) Was the original objective achieved.

**6. Conclusion**

Your conclusions must be supported by the experimental data. It is often possible to compare your data with values cited in the literature.

**Don’t forget to consult the criterion reference (assessment) grid for each practical (given in this booklet) BEFORE you start writing each report.**

<http://www.rsc.org/learn-chemistry/resource/res00001041/spectroscopy-videos#!cmpid=CMP00001772>