

## Instructions for Lab Reports

### General Instructions:

- Each student must complete and hand in their own individual, hand-written lab report.
- If labs are copied, the marks will be shared between the students.
- Each lab report is to be started on a clean sheet of paper.
- Do not use pronouns (I, we, us, our) in a lab report. Instead, write “It was discovered that ...”
- Complete the sections of the lab report in the order that is given below.
- The format of the lab report should be as follows:

**Title:** write the full name of the lab at the top of the page.

**Purpose:** write out the full purpose for the lab.

**Method:** you will be given complete instructions for most labs. Write down where these instructions are found. For example, you may write: “Refer to lab handout: The Properties of Acids and Bases.”

**Observations:** record your observations in a chart or other appropriate form.

- All charts must have a full title that accurately describes the observations
- If the observation table is somewhere else in the lab (for example, on the back of the lab handout), write “refer to observation table” and refer to the chart by its title
- For all measured values, include the units (eg. grams, millilitres etc.)
- Do not include any calculated values or interpretations in an observation chart
- When you are describing a substance, include, at least, the colour, state and clarity of the substance
- Make sure you write down your own observations during the lab. Do not rely on your lab partner to make observations for you.

### Calculations:

- When an experiment produces numerical results it will be necessary to show all of the calculations, including units, that lead to your “answer”.
- Marks will be given for the mathematical equation, the substitution step, and the final answer, rounded to the correct number of significant digits.

**Questions:** Answer the questions for the lab in **full sentence form**.

- Each student must answer the questions on their own. Marks will be deducted for copying.

**Conclusions:** This is a brief summary of what was discovered when you did the lab, in **full sentence form**.

- The conclusion usually answers the question that is asked in the purpose for the lab.
- Very often the answers to the questions and calculations will guide you to the conclusions for the lab.

**Errors:** This section explains why your experimental results may be different from what was expected, differ from other students or why they may be inaccurate.

- Unless you are told otherwise by your teacher, discuss at least three sources of *unavoidable* error in the experiment.
- For example, all equipment, has a certain, built-in error depending on its “quality”. It is hard to measure exactly 100.00 mL using a graduated cylinder because they are not that accurate. This is a source of error because you do not have any better equipment.
- Poor technique, such as using dirty glassware or “Did the math wrong on my calculator” are not acceptable sources of error. They are mistakes!
- In general, experimental error refers to problems with the design of the lab or limitations of the equipment that is used. Bad technique is something that you, as a competent chemistry student, would not want to admit to doing.