Lab report instructions

Use this eight-section lab report to model your lab report work.

Section 1: Title

The title of a laboratory report is a short, informative statement explaining what the laboratory report is about.

For example: a title could be “Identifying elements”

Section 2:

This is a short statement, or paragraph, explaining the reason for conducting the experiment.

For example: The goal of my experiment is to determine if it is possible to identify elements based on their properties.

Section 3: Hypothesis

A hypothesis is an educated guess that predicts the result of the experiment you will be conducting. It is written in the form of a prediction.

For example: Elements can be identified based on their density, flame colour, boiling point and freezing point.

Section 4: Materials

This is a list of all materials used in the experiment. Diagrams can also be used in this section to show how the experiment was set up.

In my experiment I used:

- samples of elements in test tubes
- scale
- beaker of water (to test density)
- bunsen burner
- thermometer
- retort stand
- safety goggles, gloves and apron

Section 5: Method

The method is an ordered list of steps clearly describing how the experiment was done. They are written in the past tense and can be written in the third person, as shown, or they can be written in the first person.

For each sample:

- weigh it using the scale
- determine the volume of the sample
- calculate density using the mass and volume

- conduct a flame test using the Bunsen burner and sample of element
- determine the melting point by putting the thermometer into the sample and holding it over a Bunsen burner until the sample melts
- determine the boiling point by putting the thermometer into the sample and holding it over a Bunsen burner until the sample boils
- record each value in the observation table
- compare your observations to the data already known about elements
- identify each element based on their properties and record this in your table

Section 6: Results

This section tells the reader what the experimenter observed before, during, and after the experiment. It is usually organized into sections, including diagrams, tables and graphs. The results may be in quantitative (involving numbers) or qualitative form (not involving numbers). All quantitative information recorded must include units of measurement, such as grams (g), metres (m), or degrees Celsius (°C).

For example:

Mystery element	Density	Flame colour	Melting point	Boiling point
1				
2				
3				
4				
5				
6				
7				
8				

Section 7: Analysis

This is the section where you can include any calculations you had performed and discuss your results in detail.

Mystery sample	Element identification
1	
2	
3	
4	
5	
6	
7	
8	

Section 8: Conclusion

The conclusion section is related to the original purpose and hypothesis. Do the results of your experiment support your hypothesis? If so, it is important to state this. If they do not, you could pose some questions based on your results that could guide a follow-up experiment.

A conclusion should also suggest some sources of error, even if your experiment worked well. If another individual conducts your experiment, they can take note of your sources of error and ensure that they design it so that they can take these into account.

For example: The hypothesis was correct. I was successful at identifying elements by measuring and observing their properties and then comparing them to those of known elements.