



## How to Write the Discussion

Some students write good labs except for the most important part: the **discussion**. This document will help you decide what to include in the discussion of your lab report.

### DISCUSSION ABOUT A DATA TABLE

Look for important trends within the table and discuss that in your discussion.

*“When time was increased, the velocity increased.”*

*“As time increased, the temperature remained constant.”*

If percentage errors are part of your table, talk about them in your discussion.

*“For all six trials, the percentage errors were less than 10%. The low percentage errors seem to suggest that...”*

### DISCUSSION ABOUT A DATA TABLE WITH A GRAPH

Since the graph was plotted using the data from the data table, the graph is the more important item to be discussed.

Mention what variables were plotted to obtain the graph.

*“A graph of distance versus time was plotted.”*

*“Velocity was plotted against time squared.”*

What type of graph resulted?

*“The graph of distance versus time was linear.”*

*“The temperature-versus-time graph was a decreasing curve.”*

Interpret the shape of the curve.

*“The line expresses the direct proportionality between distance and time.”*

*“When time increased, the velocity decreased.”*

If the graph was linear, state the slope. Also, state what the slope represents in your experiment.

*“The value of the slope was determined to be 23.4 m/s. This represents the constant velocity of the cart.”*



## WHAT TO DISCUSS IF ONLY OBSERVATIONS WERE MADE

State what observations you made.

*“When a penny was flipped 100 times, it landed ‘heads’ 49 times and ‘tails’ 51 times.”*

State what conclusions you can draw from the observations.

*“The probability of landing ‘heads’ was approximately the same as landing ‘tails’, both at 50%.”*

## ACCOUNTING FOR ERROR

Mention the true/accepted/book value.

*“In this experiment, a distance of 5.72 m was obtained. This differed from the true distance of 5.88 m by -2.72%.”*

During your experiment, you should note all the difficulties encountered. These may affect the accuracy of your experiment.

*“Measuring the diameter of the tube with a caliper was difficult. The widest part of the tube may not have been measured.”*

Any measurement is subject to error.

*“The balance beam was only accurate to the first decimal place.”*

*“The ball drop happened quickly, so it was subject to a timing error due to the reaction time of the person responsible for the timing.”*

Discuss the experimental set-up and how it could have affected the results.

*“The table was not level, and it could have affected the distance travelled.”*

In an ideal experiment, there are no such things as friction, air resistance, etc. In an actual experiment, you are not so lucky. Discuss external factors.

*“The friction between the block and the table may have lowered its acceleration.”*

*“Changes in atmospheric pressure and impurities in the water may have affected the boiling point of the solution.”*

