



a WOW Lab

BLUEPRINT

The Siphontific Method

Inquiry Approaches

Initial Inquiry

Why do we perform experiments?

To test ideas, solve problems and gather information.

What are some important things to consider when performing an experiment?

It is important to consider the following: what you want to test, what affects the outcome of the experiment, and how to control the things that you do and do not want to test.

What is a siphon?

A siphon is a device that transports water using atmospheric pressure.

Experimental Procedure Inquiry

Why do we only test one variable at a time?

We can observe the effects of one particular change without risking interference from other variables.

In-Depth Inquiry

What are some variables that may affect the speed of a siphon?

Possible answers include: size of tube, length of tubing, height difference, temperature of liquid and type of liquid.

Can you explain how you could test some of these variables?

One could use different sized tubing, use a different tube length, or use different liquids such as oil or juice.

What are the benefits of using graphs to show data? Is it easier than using a table? Why?

Graphs enable you to identify trends more easily than in a table, gain a visual understanding of the data you have collected, and quickly identify if data is very "skewed" or if some data is very different from others.

What are important features of scientific graphs?

Scientific graphs must have appropriate graph titles, axis titles, legends, units and clear numerical dividers on each axis.

Which set of data can be approximated by a straight line, indicating a linear relationship? How can you tell this?

The tube length data demonstrates a linear relationship. The graph shows that many of the data points lie on the approximated line of best fit.