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Class: Physics II

Period: 7

Group #:

Lab # and Title: Lab 02 - Hydrostatic Pressure

Laboratory Report

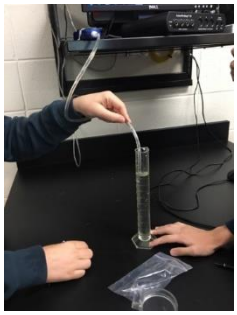
Purpose

This laboratory report sets out to find the relationship between depth and water pressure. Both water pressure and depth will be measured.

Equipment Used

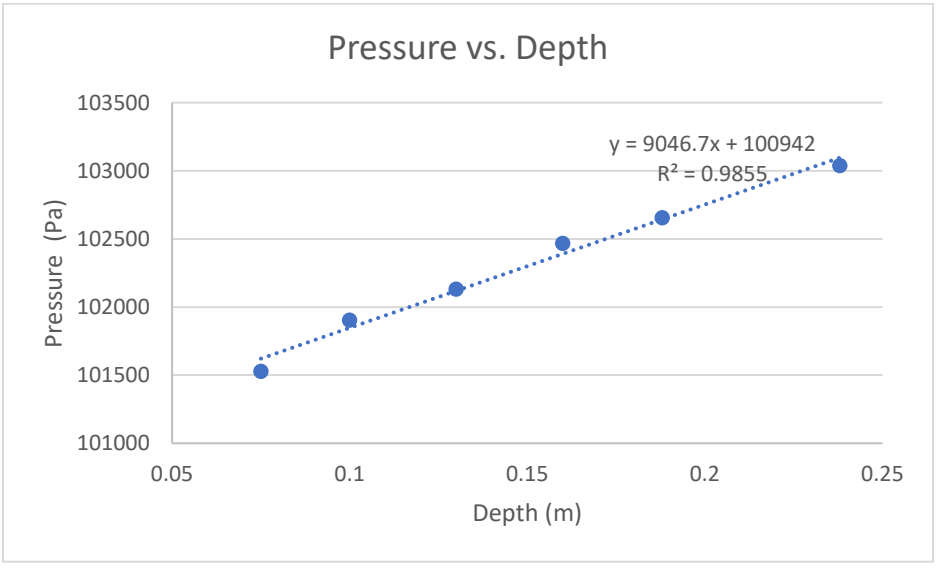
Graduated cylinder, air pressure sensor, plastic tube that is compatible with the air pressure sensor, and ruler

Procedure



In order to replicate this lab, you must first configure your air pressure sensor so that you are able to read the values it measures. Then, in preparation, you must connect a tube to the sensor, and then you must fill a graduated cylinder but not all the way as you will be sticking the tube in it. Now it is necessary to stick the tube into the graduated cylinder as seen in the picture on the left. Immediately record the depth and pressure which can be seen in the pictures to the left. Do this at least five times. This recorded pressure is the water pressure as it is in equilibrium so to maintain equilibrium, the air pressure equals water pressure. The last and final step is to analyze the data and make a conclusion.

Data



Depth (m)	Pressure (Pa)
.075	101527
.1	101902
.13	102130
.16	102466
.188	102654
.238	103036

Conclusion

My data supports a linear relationship between depth of water and water pressure. My measurements can be said to be fairly accurate. The only sources of error came from the tolerance of the air pressure sensor, changing outside pressure, and from the tolerance of the ruler. To minimize such error, we used the tools to the best of our ability.