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Class: Physics II AP

Period: 2

Group #: 1

Lab # and Title: 1 – Mass vs. Volume

Laboratory Report

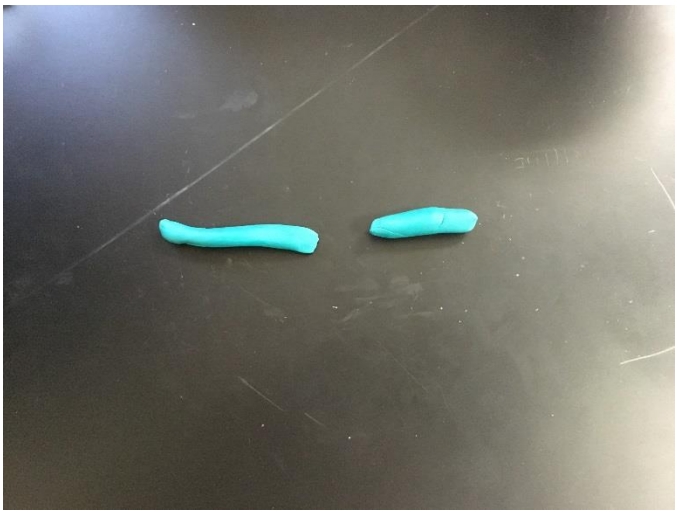
Purpose

The purpose of this lab is to determine the relationship between volume and mass. To answer this, we will measure both the mass and volume of several objects and measure the relationship.

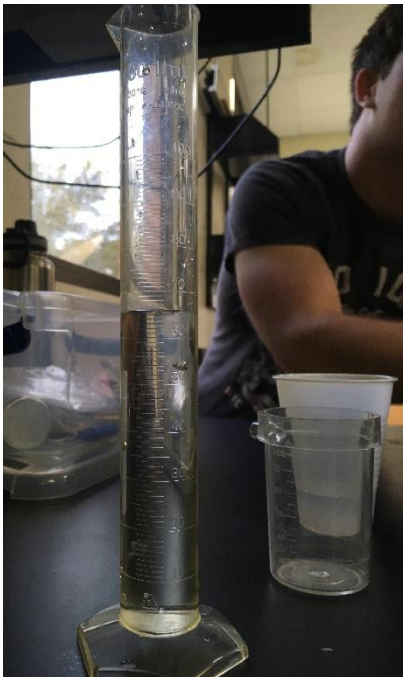
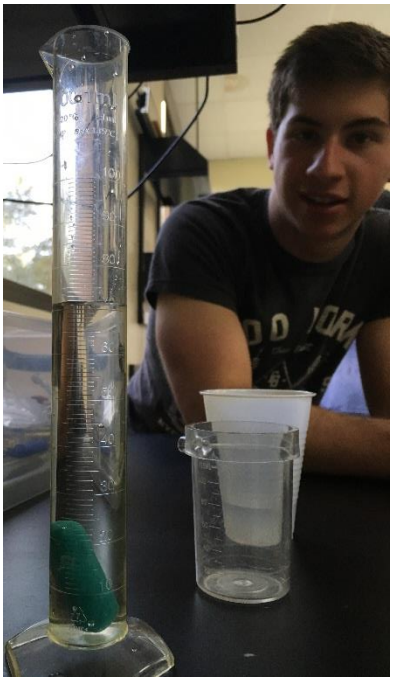
Equipment Used

Triple-beam balance, graduated cylinder, play-dough

Procedure

1. Separate a part of the clay to use for the first data point.
   a. 
2. Use the triple beam balance to find the mass of the object and record it.
   a. 

3. Use the graduated cylinder to find the volume of the same object and record that.

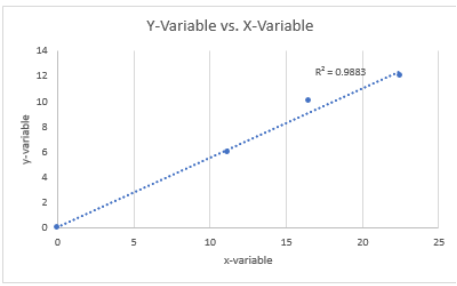
a.  

4. Repeat the previous steps with two more different amounts of clay

a.  

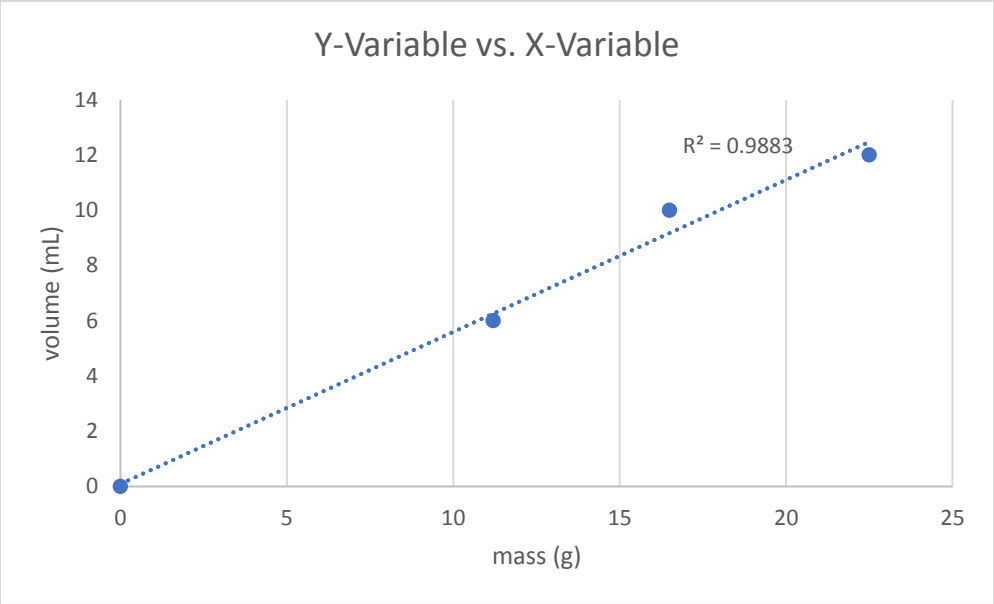
5. Graph the volume as a variable of the mass, and find the relation based on the resulting graph

x-variable (mass)	y-variables (volume)
0g	0mL
11.2g	6mL
16.5g	10mL
22.5g	12mL

a. 

Data

x-variable (mass [g])	y-variables (volume[mL])
0g	0mL
11.2g	6mL
16.5g	10mL
22.5g	12mL



Conclusion

The data we gathered strongly suggests a linear relation between mass and volume, with a linear trendline fitting with a R^2 value of 0.9883. Errors in the data can be explained by human error, inaccurate or imprecise measuring tools, poorly packed clay, loss of water, and multiple other factors. These can be mitigated by using high-quality tools, taking care when measuring, and property preparing and handling lab materials.