

Density of Pennies Lab Report

(SAMPLE)



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Period $\frac{1}{2}$

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Purpose: The purpose of this lab was to...

Theory:

Part I:

- Mass is...
- Volume is...
- Density is...
- An alloy is... **(use index, glossary, or dictionary for this definition)**
- Finding volume by water displacement means...

Part II:

Before 1982, pennies were made of.... **(CITATION)**

Procedure: In this procedure, ten pennies were used instead of twenty.

Data/ Results:

Data Table 1: Pre- 1982 Pennies

Mass of Pennies: _____ (g)				
TRIAL	Volume of Water (mL)	Volume of Water and Pennies (mL)	Volume of Pennies (mL)	Density of Pennies (g/mL)
1				
2				
3				
Average				

Data Table 1: Post- 1982 Pennies

Mass of Pennies: _____ (g)				
TRIAL	Volume of Water (mL)	Volume of Water and Pennies (mL)	Volume of Pennies (mL)	Density of Pennies (g/mL)
1				
2				
3				
Average				

Calculations:

1.) Volume of Pennies (Trial 1, pre-1982 pennies)

$$\begin{array}{rcl} 58.5 \text{ mL} & \text{volume of water + pennies} & \\ - 55.0 \text{ mL} & \text{volume of water} & \\ \hline 3.5 \text{ mL} & \text{volume of pennies} & \end{array}$$

2.) Density of Pennies (Trial 1, pre-1982 pennies)

$$\begin{array}{rcl} 22.01 \text{ g} & \text{mass of pennies} & \\ \div 3.5 \text{ mL} & \text{volume of pennies} & \\ \hline 6.3 \text{ g/mL} & \text{density of pennies} & \end{array}$$

Conclusion: In this lab, the pre-1982 pennies had an average density of 6.3 g/mL. Based on these results, I believe the pennies were made from the element tellurium, which has a density of 6.232 g/mL. I do not believe the pennies are really made from tellurium however because tellurium is a rare, silvery-white metal and the pennies are not silvery white.

(Repeat analysis for post- 1982 pennies)

Questions:

1. In this lab, three trials were used instead of one because... **(DO NOT JUST SAY IT WAS TO TAKE AN AVERAGE; WHY DID YOU WANT TO TAKE AN AVERAGE)**
2. It was necessary to measure the volume of the water before adding the pennies because...
3. It was necessary to completely dry the pennies in between trials because...
4. One possible source of error was.... Another possible source of error was... **(Be sure to explain WHY you think these were errors).**
5. When trying to identify what the pennies were made from, I did not consider...