

Are Pennies made of copper?

This is a lab that will serve to answer the above question. You will find this answer by discovering the density of at least two penny samples.

You will need a **graduated cylinder**, a **scale**, **water** and **samples of different pennies**.

There are two types of pennies: Pre 1981 and Post 1984.

Choose a sample amount (*at least 10*) of pennies from each type.

Pennies	Number	Mass	Initial volume	Final Volume	Volume of pennies (Final v -- initial v)	Density (mass/volume of pennies)
Pre 1981						
Pre 1981						
Post 1984						
Post 1984						

Here are some common metal densities:

Metal	Density (g/cm ³)
Aluminum	2.7
Lead	11.3
Copper	8.9
Gold	19.3
Magnesium	1.7
Palladium	12.1
Silver	10.5
Titanium	4.5
Vanadium	5.4
Zinc	7.1

Please also answer the following questions:

- 1) What metal are pre 1981 pennies made from?
- 2) How do you know?
- 3) What metal are post 1984 pennies made from?
- 4) How do you know?
- 5) What was the most difficult or complex aspect of this lab?
- 6) What were some possible sources of error in this lab?