Measurement of density

Purpose: To determine the densities of various metals.

Apparatus: Electronic balance, foot ruler, and rectangular solid metals- Al, Cu, Brass, and Fe.

Theory:

 Volume = Length x Width x Height.

Observe and feel the four metal blocks and make three statements about them.

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You have four metal blocks of the same dimensions. Two of the dimensions are small and they need to be measured accurately. Discuss with your group and come up with a method to measure these dimensions, and describe it below.

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 Data Table (Include units):

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| --- | --- | --- | --- | --- | --- | --- |
| Metal | Mass | Length | Width | Height | Volume | Density |
| Al | - | - | - | - |  |  |
| Cu | - | - | - | - |  |  |
| Fe | - | - | - | - |  |  |
| Brass | - | - | - | - |  |  |

Density of water

1. Obtain Volume and Mass data for water, using a graduated cylinder and scale, and complete the table below. (Volume🡪independent variable, Mass🡪dependent variable)

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| Volume (mL) | Mass (g) |
| 0 | 0 |
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3. Plot Mass Versus Volume, graph below. (Mass on the Vertical or Y-axis, Volume on the horizontal or X-axis)

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4. Find the slope of the Mass Versus Volume graph, include units. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
5. What is represented by the slope of Mass Versus Volume graph?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_