



Data Analysis:

- 1) Were the objects the same shape?
- 2) Were the objects the same volume?
- 3) Were the objects the same mass?
- 4) Were the objects made of the same substance?
- 5) What do you notice about the density of all the objects? Explain why this occurred.

6) What does this tell us about the density of same substances?

- 7) If the 'L' shape were made with 1 x 1 x 1 inch solid iron cubes instead of plastic cubes:
  - a. How would this affect the mass? Explain.
  - b. How would this affect the volume? Explain.
  - c. How would this affect the density? Explain.

8) The mystery object has a mass of 5.293g and a volume of 6.7 cm<sup>3</sup>. Calculate the density then by using the table below state the mystery substance.

SUBSTANCE	DENSITY ( G/CM <sup>3</sup> )
AIR	0.0013
WOOD (OAK)	0.85
WATER	1.00
ICE	0.93
ALUMINUM	2.7
LEAD	11.3
GOLD	19.3
ETHANOL	0.94
METHANOL	0.79

**\*\*Challenge\*\*** Without taking any structure apart, what is the mass of one plastic cube?