Measuring Activity

name: _____

Objective: to practice measuring, using formulas and correct significant figures, and dimensional analysis.

Mass the metals DRY on the scale. Use water displacement method to measure volumes to the nearest 10^{th} mL. If you don't measure to the nearest 10^{th} mL, it's wrong. You must learn to use our equipment correctly.

Fill in this table but DO ALL OF YOUR CALCUATIONS on white paper which you will staple to this page before you hand in your work. No work on this page! SF and units ALWAYS matter.

Scales measure to the 100^{th} gram, record ALL the numbers, theyer, they're all significant.

1 mL = 1 cm^3 1000 mL = 1000 cm^3 = 1 liter. mL^3 is ALWAYS WRONG

Data table	Symbol	Mass grams	Volume cm^3	Measured density g/cm^3	Actual density g/cm^3	Percent error
Tin						
Iron (nails)						
Bismuth!						

Questions… On loose-leaf paper. Show all work + formulas.
Dimensional analysis requires you use units and correct SF always.

1. Convert mass of TIN into pounds and convert that into scientific notation.
2. Convert mass of IRON into milligrams and convert that into scientific notation.
3. Convert mass of BISMUTH into ounces.

Use these conversion factors, and LOOK at table B, on the reference tables.
Don't go onto the internet for weird conversion factors.

454 g = 1 pound = 16 oz. 2000 p = 1 ton 1000 mg = 1 gram 1000g = 1 kg

4. What does a positive percent error indicate?

5. What does a negative percent error indicate?

6. In the boxes below, the small numbers top left of each box are the ATOMIC NUMBERS of the elements from the Periodic Table. Put the correct symbol and name for each element's atomic number. Put a small star in the NONMETALS. There are five examples to follow. Use table S if you need to.

1 H hydrogen ★	6	8	11	13
14	17	19	20	29
30	33 As arsenic ★	35	36	28
51	53	54	72	77 Ir iridium
82	83	88	Of the 118 elements, 22 are nonmetals. How many are metals?	