

**HW 2-2 – Chem Honors
Units & Density**

NAME _____
Period _____ **Date** _____

Read pp. 33-39

1. List the SI units of measurement for length, mass, time, and temperature.
2. What is the only base unit that has a prefix, and why is that unit used rather than the bare unit?
3. What is the difference between a base unit and a derived unit?
4. What are some examples of derived units? What quantity do they measure?
5. Which of these samples have the same density? Show all calculations and all numbers must have units!

Density Data		
Sample	Mass	Volume
A	80 g	20 mL
B	12 g	4 cm ³
C	33 g	11 mL

6. Density is an intensive property, meaning that it can be used to identify a material. From the table at right, determine the identity of an unknown metal if a sample with mass = 47.4 g increases the volume of water in a graduated cylinder from 8.50 mL to 13.85 mL. (Don't forget you can convert mL to cm³ for the metal's density.)

Name	Density, g/cm ³
Aluminum	2.701
Iron	7.86
Nickel	8.90
Zinc	7.13
Lead	11.35

7. What is the mass of an aluminum sample with a volume of 25.9 cm³? (see density above)
8. What is the volume of a sample of lead with a mass of 194.8 g? (see density above)