General Physics

Chapter 1: Physics and Measurement

1.1 Standards of Length, Mass, and Time

1.) Describe early standards of measure. Give examples.

2.) How are early standards of measure different from modern ones? Why was this necessary?

3.) What is the SI unit of measure for length? For mass? For time? Why are SI units of measurement necessary?

4.) What is a leap second? Why is this relevant?

5.) Provide the abbreviation and power of each prefix:
   a) deci
   b) kilo
   c) mega
   d) centi
   e) micro
   f) nano
   g) giga

1.2 Matter and Model Building

6.) What is a model? Why is it important?

7.) What did Democritus theorize? Explain his reasoning.

8.) What are the subatomic particles?

9.) What is a quark?

1.3 Density and Atomic Mass

10.) What is the equation for density?

11.) What is the density of a metal with a mass of 208 g and a volume of 8.0 L?

12.) How much of a compound do you have if it has a volume of 42 mL and a density of 5.5 g/mL?

13.) What volume of a solution do you have if it has a mass of 24g and a density of 6.0 g/mL?