

Using DENSITY as a CONVERSION FACTOR

There are 3 ways to work problems when using density as a conversion factor (cf).

When using conversion factors, the cf will always be reciprocals of one another, therefore

when Density (D) is being used as a cf: $\frac{M}{V}$ or $\frac{V}{M}$

may be used depending on the information being asked for (?) in the word problem...

3 TYPES OF PROBLEMS USING DENSITY:

GIVEN: (THE INFORMATION <i>GIVEN TO YOU</i> IN THE WORD PROBLEM)	REQUIRED: (THE INFORMATION <i>ASKED FOR (?)</i> IN THE WORD PROBLEM)
1. <u>Mass (M)</u> and <u>Volume (V)</u>	Find or Solve for <u>Density (D)</u> using formula: (there is no cf in this one) $D = \frac{M}{V}$
2. <u>Mass (M)</u> and <u>Density (D)</u> $\frac{V}{M}$	Find or Solve for <u>Volume (V)</u> using Density as the cf to convert from Mass to Volume: $V = \cancel{M} \times \frac{V}{\cancel{M}}$
3. <u>Volume (V)</u> and <u>Density (D)</u> $\frac{M}{V}$	Find or Solve for <u>Mass (M)</u> using Density as the cf to convert from Volume to Mass: $M = \cancel{V} \times \frac{M}{\cancel{V}}$