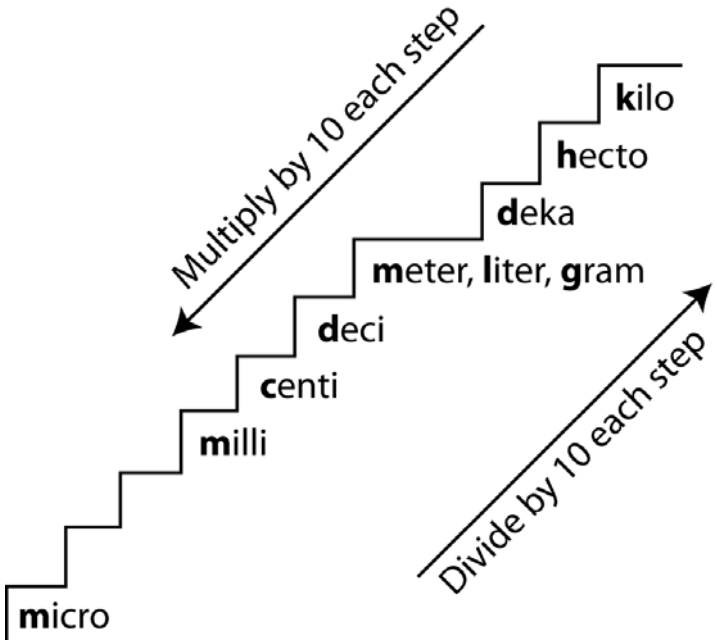
Tips for Homework (Module 5)

1. Use unit analysis (also called dimensional analysis) as described in the book. It help enormously to keep everything straight.

2. Always write the leading zero on decimal numbers less than 1. For instance, .2 should always be written as 0.2 with that leading zero in place. I personally do not do that in math because I find that 0 sometimes misleads students. However, in medical practice, it is recommended because if the decimal point goes unnoticed in .2 mg, and is read as 2 mg, a massive overdose can occur. Likewise, you should never write 2.0 but instead leave off that zero, writing 2 instead. Again, not noticing the decimal point can change 2.0 mg into 20 mg. Get into the habit of adopting this medical practice.

3. (Homework problem 10 and others) I use the picture below to help me convert from one metric unit to another. The mnemonic device I use to remember what goes where is "**M**ary, **m**y **c**ow **d**rinks **m**ilk, **l**iquor, **g**in **d**aily, **h**ourly, **k**nightly". It is used similar to the one described in the book. You have to remember the gaps between "micro" and "milli" and what each letter stands for, but this device gives you a good way to remember the order of the metric measurements. It also reinforces the idea that you step up and down by factors of ten to convert between measurements.

4. (Using metric conversion picture below) Remember you can simply move the decimal place of a number one space to the left to divide by 10 and one space to the right to multiply by 10. For instance, to convert 5 milligrams to grams, we take our 5 and divide by 10 for each step up from "milli" to "gram" (three steps). So 5 milligrams is equal to 0.005. All I did was move the decimal place in 5.0 three places to the left to get 0.005.



5. It is possible to get different answers when converting between measurements, depending on what conversion factors you use. I got two different answers (900 or 960 minims) for number 8 in the homework. This is likely to happen when you use drams because the conversion factors are rounded. This should not happen when you use metric units or normal stuff like pints and quarts.

6. (Homework problem 12) Convert all measurements to fluid ounces. Then add down the column for each day to get a total number of ounces for that day. Then average those three numbers.