Announcements

Thursday, February 02, 2012

Quiz 1 average ~12/15 - Key will be posted in D2L

MasteringChemistry assignments (due at 11:59 pm):

- **Ch 3** now due **Monday** Feb 6
  - Law of conservation of mass question added
- **Ch 4/5a**: Monday, Feb 13
- Work previous MC assignments for practice
- Don't forget the hints!!

Lab:

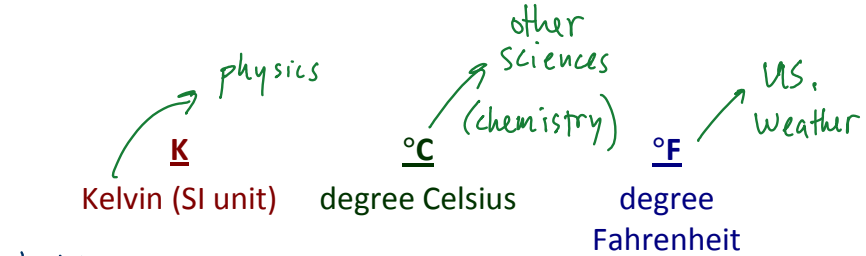
- **Prelab** before lab
- **Postlab** after lab (individual, due 48hr after lab)

Chemical vs Physical Changes

Temperature

Temperature: • measure of atomic or molecular motion

• measured with... thermometer



absolute zero: 0 K = -273.15 °C = -459.67 °F

273.15 K + 100K 0 °C water freezes +100°C 32 °F +180°F

373.15 K 100 °C water boils 212 °F

same size unit

K = °C + 273.15 or °C = K - 273.15

★ decimal places for °C ↔ K

38.0 °C = ? K

38.0 + 273.15 = 311.15 K

311.2 K

follow instructions in MC problems. use 273 if it says that

Fahrenheit/Celsius conversions (on your conversion sheet)

$$?\ ^\circ F = 1.8(^\circ C) + 32$$

multiply first

$$?\ ^\circ C = \frac{(^\circ F - 32)}{1.8}$$

subtract first

★ sig figs of orig temp for °C ↔ °F

85 °F = ? °C

2 sf

$$\frac{(85 - 32)}{1.8\ \text{exact}} = 29.44444\ldots\ ^\circ C$$

(85 - 32): exact

↓ 2 s.f.

29 °C

85 °F = ? K

~~29~~ + 273.15 = don't use rounded value in a calculation

29.4444 + 273.15 = 302.59444 K

0 dp 2 dp

↓ 0 dp

303 K