

Announcements

Monday, February 06, 2012

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

MasteringChemistry assignments (due at 11:59 pm):

- **Ch 3** now due tonight - 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!!

★ **Exam 1 will be moved to Wed, Feb 15.** See me if this is an issue for you - we can arrange a make-up time

Lab:

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

Temperature

Temperature: • measure of atomic or molecular motion
• measured with... *thermometer*

physics → **K** Kelvin (SI unit) *metric*
experimental Chemistry → **°C** degree Celsius
°F degree Fahrenheit *english*

→ **0 K** absolute zero -273.15 °C -459.67 °F

273.15 K 0 °C 32 °F
373.15 K 100 °C 212 °F

H₂O freezes *H₂O boils*

+100 °C *+100 °C* *+180 °F*

K = °C + 273.15 or *°C = K - 273.15*

★ **use decimal places**

38.0 °C = ? K 38.0 + 273.15 = 311.15 K
(1 dp) *2 dp* *1 dp*

Some MC problems show 273 not 273.15
↳ (this problem would be 311 K)

Fahrenheit/Celsius conversions

$$^{\circ}\text{F} = 1.8(^{\circ}\text{C}) + 32$$

multiply first

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

subtract first

exact

exact

use sig figs of orig. temp

$$85^{\circ}\text{F} = ?^{\circ}\text{C}$$

2 sf

$$\frac{(85 - 32)}{1.8} = \frac{53}{1.8} = 29.4444\dots^{\circ}\text{C}$$

2 sf.

$$\boxed{29^{\circ}\text{C}}$$

$$85^{\circ}\text{F} = ?\text{K}$$

~~29~~ + 273.15 = 302.15 K → ~~302 K~~

$$29.4444 + 273.15 = 302.5944\text{ K} \rightarrow \boxed{303\text{ K}}$$

0 dp

2 dp