CW #3 – KMT –

1. What are the 5 main assumptions of the Kinetic Molecular Theory?
2. According to the KMT< why does the pressure inside a car tire increase after the car has been driven for a long time?
3. What would happen to the volume of a helium balloon if you take it from your house at 70˚F outside where it is 30˚F? Use the kinetic molecular theory to discuss temperature, pressure and volume in your answer.
4. What happens to the gas molecules when they get cool enough to liquefy? What forces assist in that process?
5. Describe how a liquid can boil. You must use vapor pressure in your answer.
6. Where will water boil at a lower temperature: here in Mableton, Ga which has an elevation of 978 feet above sea level or on top of Pike Peak in Colorado Springs, Co which has an elevation of 14,114 feet above sea level? Why?
7. Describe the 4 classes of crystalline solids.
8. How are amorphous solids different from crystalline solids? Give an example of each.

CW #3- Heat

Use the equation q = mCΔT to solve the following problems.

1. Practice these conversions:
   1. Convert 50.0 calories (cal) to kilocalories (Cal)
   2. A fun size Milky Way has 81 kilocalories (Cal). How many calories does it have?
   3. A 24oz. bottle of Coca Cola has 291 Cal. How many joules (J) is that?
2. How much heat energy is required to heat 100.0g of Al from 25°C to 100°C? The heat capacity of aluminum is 0.89J/g°C.
3. How much heat is released when 65.0g of steam is cooled from 150°C to 125°C? The heat capacity of steam is 2.0J/g°C.
4. What mass of gold takes -78J of energy to change temperature from 80°C to 40°C? Is this process endothermic or exothermic? The heat capacity of gold is 0.13J/g°C.