**Homework #1: Introduction to phase changes**

1. List three factors that will determine if a compound or element is found in the solid, liquid, or gaseous state.
2. (a) Draw at the particulate level an example of a solid, liquid, and gas—should demonstrate proper spacing and relative motion

(b) discuss spacing, amount of KE, amount of PE, what type of shape and volume they have (definite/indefinite)

spacing:

KE:

PE:

Shape/volume:

Solid



spacing:

KE:

PE:

Shape/volume

liquid

spacing:

KE:

PE:

Shape/volume:

Gas

1. Define KE and PE
2. Fill in the blanks: as you go from solid to liquid \_\_\_\_\_\_\_\_ energy is converted to \_\_\_\_\_\_ energy. KE and PE can never equal \_\_\_\_\_\_\_. Meaning, whatever the state there is some measure of both.
3. How do we convert potential energy into kinetic energy?
4. How do we measure the amount of thermal energy used?
5. Graph the relationship between PE and KE in solid, liquid, and gas assuming total energy = 600 kJ/mole

KE

(zero kJ)

PE