# **Unit 2 –Energy & States of Matter – Part 1 - Objectives**

| Question | Response |
| --- | --- |
| 1. Relate observations of diffusion to particle motion and collision in the gas and liquid phases. |  |
| 2. Relate observations regarding the addition of energy by warming to increased particle motion. |  |
| 3. Describe the characteristics of solids, liquids and gases in terms of particles and their: arrangement: use particle diagrams to account for motion and density differences; describe the process of how the arrangement of matter particles changes during phase changes. |  |
| 4. Relate temperature to the kinetic energy (Ek) of particles in motion. |  |
| 5. Explain, at the particle level, how a thermometer measures the temperature of the system. |  |
| 6. Explain the basis for the Celsius temperature scale. |  |
| 7. State the basic tents of Kinetic Molecular Theory (KMT). |  |
| 8. The 3 variables P, V and T are interrelated. Any factor that affects the number of collisions has an effect on the pressure. You should be able to:   * Predict the effect of changing P, V or T on any of the other variables.      * Explain (in terms of the collisions of particles) *why* the change has the effect you predicted. * Explain the basis for the Kelvin scale. Use the absolute temperature scale to solve gas problems. * Use factors to calculate the new P, V or T. Make a decision as to how the change affects the variable you are looking for. |  |