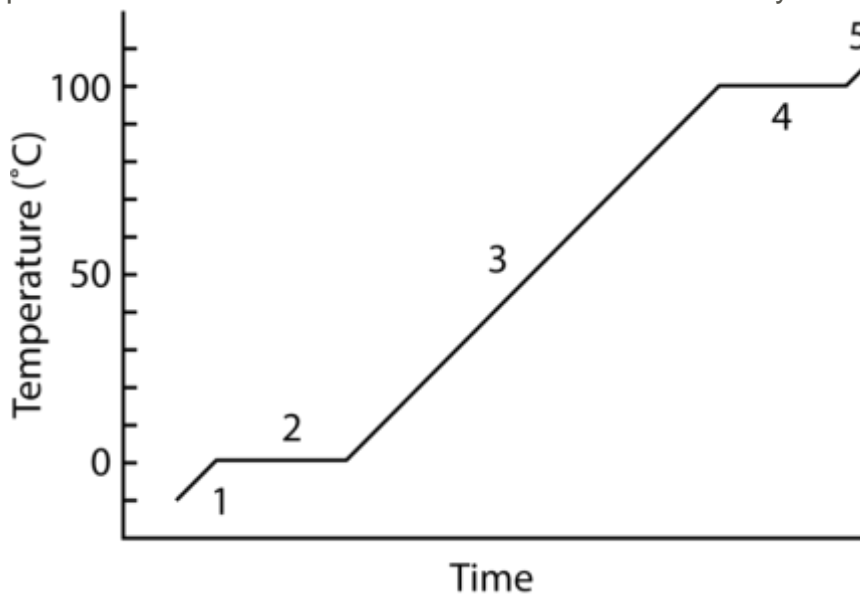


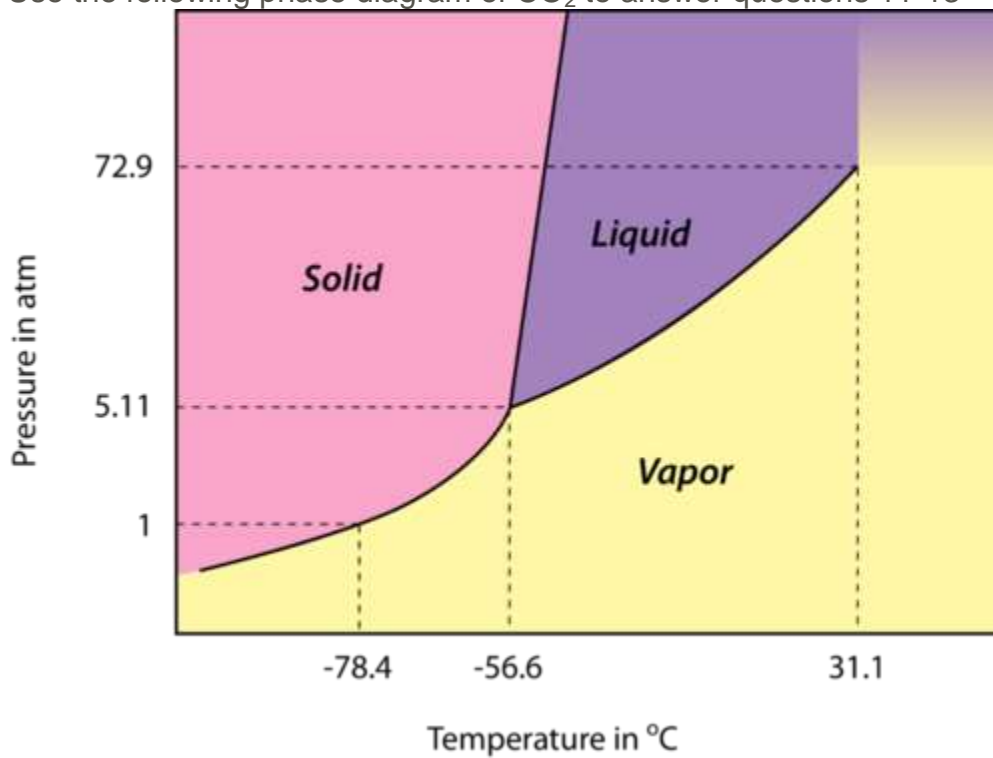
States of Matter Worksheet

1. Describe the following states of matter: gas, liquid, solid. Draw a diagram to describe what particles might look like at the molecular level for each.
2. What is kinetic energy? Does kinetic energy increase or decrease as particle speed increases?
3. Describe what is meant by an elastic collision. What would happen to particles over time if most collisions were not elastic?
4. Summarize the major points of the kinetic-molecular theory.
5. Determine whether or not the following gases would be ideal; that is, do they fit the points of kinetic-molecular theory?
 - a. As a gas is heated, its particles start to move more slowly.
 - b. When one gas particle bumps into another, no energy is lost.
 - c. The gas particles follow predictable, circular paths within a container.
6. Define viscosity. Give an example of how temperature influences viscosity.
7. Define surface tension. Would you expect water to have a stronger or weaker surface tension than olive oil?
8. Draw a picture of a liquid displaying adhesion and a liquid displaying cohesion in a glass jar.
9. What distinguishes crystalline and amorphous solids?

10. The following heating curve of an unknown substance shows several phase changes that take place as heat is added. Label each section indicated by a number.



Use the following phase diagram of CO₂ to answer questions 11-13



11. What phase of CO₂ exists at a temperature of 0°C and a pressure of 0.006 atm?

12. What phase of CO₂ exists at a temperature of -56°C and a pressure of 5 atm?