Chapter 13 Quiz Review

1. What is the Kinetic Theory state about the properties of matter? What is the only exception to the Kinetic Theory?
2. A gas has \_\_\_\_\_\_\_ shape and \_\_\_\_\_\_\_ volume. Why do gasses have these properties (on a molecular level)?
3. When gas particles collide, it is said to be elastic, what does elastic mean?
4. What is pressure, and how is it created? What is the only space that does not exert any pressure?
5. Convert 560 kilopascals into atmospheres and millimeters of mercury.
6. Convert 290 Kelvin into degrees Celsius. Convert -84oC into Kelvin.
7. How are pressure and temperature related? Why does this relationship exist?
8. How are pressure and elevation related? Why does this relationship exist?
9. A liquid has \_\_\_\_\_\_\_ shape and \_\_\_\_\_\_ volume. Why do liquids have these properties (on a molecular level)?
10. In terms of a pressure gradient, what do liquids and gasses prefer to do? Use this to explain how mechanisms like a straw, or siphoning gasoline work.
11. What is vaporization/evaporation? Explain, on a molecular level, why this process occurs.
12. What happens when evaporation occurs in a closed container? Why does this happen?
13. Why is evaporation technically considered to be a cooling process?
14. What is a boiling point? How and why could the boiling point change at a higher elevation?
15. What is the definition of a “normal” boiling point? For water, what are the normal boiling point conditions?
16. What is viscosity? What can influence the viscosity of a substance?
17. A solid has \_\_\_\_\_\_ shape and \_\_\_\_\_\_ volume. Why do solids have these properties (on a molecular level)?
18. What is it called when a solid goes through a phase change? What other phase change can also occur at this temperature? Why is this said to be at an equilibrium?
19. What are three possible shapes that solids can take? Give one example of each.
20. Some crystalline structures, like the ones conducted in our lab, are said to be lattice structures. Explain what this means.
21. How do the crystalline structures influence the physical properties of ionic salts? How does this differ from molecular compounds such as water?
22. When solids are heated they \_\_\_\_\_\_\_\_, whereas when they are chilled they \_\_\_\_\_\_\_\_\_\_. Use this to explain why a heated glass beaker shatters when cold water is added to it. Additionally explain why its molecular structure will influence how the beaker will shatter.
23. What is sublimation and what can it be used for?
24. What are the two conditions that can influence the state of matter of a substance? How are these conditions represented?
25. On a phase diagram, what is the triple point? What is the critical point?
26. On a phase diagram, the line between a solid and a liquid is called the \_\_\_\_\_\_\_\_. The line between the liquid and the gas is called the \_\_\_\_\_\_\_\_\_, and the line between the solid and the gas is the \_\_\_\_\_\_\_\_\_\_\_\_\_.