**Review Topics:**

States of Matter – solid, liquid, gas, plasma

Changes between states – melting, vaporization, condensation, freezing, sublimation, deposition

Density

Atomic Structure – Nucleus, protons, neutrons, electrons, atomic number, atomic mass

Bohr Diagrams and Lewis Structures

Periodic Table – metals, non-metals, metalloids

1. Draw a diagram of the changes in states in matter. Label each change with the proper term.
2. What subatomic particles are found in the nucleus?
3. An atom wants to be stable. How does this relate to the valence electrons present?
4. What element has 9 protons?
5. How many neutrons are present in Na?
6. What is the density of a 20kg cube with side length 7?
7. You want to find the volume of a rock. You put 32.3 mL of water into a graduated cylinder, add the rock, and then observe that the new water level is now 34.8 mL. The rock has a mass of 23 g. What is the volume of the rock?
8. What has more mass: 20 cm3 of feathers or 20 cm3 of copper?
9. A liquid has a density of 1.35 g/mL and a volume of 85 mL. What is the mass of the liquid?
10. What is the common name for group/family 1 on the Periodic Table?
11. What is the common name for group/family 2 on the Periodic Table?
12. What is the common name for group/family 18 on the Periodic Table?
13. Which of the three states of matter retains its volume and shape?
14. Mendeleev created this in 1869 to organize the elements by their properties?
15. How do you determine if an element is going to gain or lose electrons when bonding?
16. For the following determine the type of bond ,diagram the sharing, and name the bond:
17. NaCl
18. Na2S
19. O2
20. C02
21. What is the term for a positive ion?
22. What is the term for a negative ion?
23. What is the oxidation number for Flourine?
24. What is the oxidation number for Lithium?
25. State and describe the conservation of mass in relation to atomic bonding.
26. Draw the Lewis Dot structure for Carbon.
27. What are the tools used to measure volume?
28. What is the octet rule?
29. If Calcium and Oxygen bond, what is the correct formula for the bond? Draw a diagram.
30. Draw a Bohr diagram for Be.
31. Which of the subatomic particles has “little mass”?
32. What is viscosity? How does honey’s viscosity compare to water?
33. Which periodic table group is most reactive?
34. Which periodic table group is least reactive?
35. Water is a special element due to the fact that its solid form floats in its liquid form. Why does the solid float in the liquid?