Unit 2 Study Guide **Name: _____**

1. **Explain the difference between a pure substance and a mixture.**

2. **What are Elements and Compounds?**

3. **What is the difference between a heterogeneous mixture and a homogeneous mixture?**

4. **Explain how particles move in a solid, liquid, gas, and plasma.**

5. **Explain how adding or removing thermal energy affects the movement of particles in a substance.**

6. **Explain how water changes from ice to water vapor, and back to ice. Discuss particle movement and use words like melting, freezing, etc.**

7. **What is the difference between a physical and chemical property of matter?**

8. **List examples of physical and chemical properties.**

9. **What is the difference between a physical and chemical change?**

10. **List the signs that a chemical change has occurred.**
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11. **Draw a picture of an atom and label the nucleus, protons, neutrons, and electrons.**

12. **Explain what the atomic number and the atomic mass represent.**

13. **Explain how the Periodic Table is organized using words such as atomic number, periods, groups, protons, valence electrons, and energy levels.**

14. **List characteristics of metals, nonmetals, and metalloids and discuss their location on the Periodic Table.**

15. **Explain how you could use the periodic table to draw a model of a specific element, such as sulfur.**

16. **Explain the Law of Conservation of Matter.**

17. **Explain how the Law of Conservation of Matter is applied in the chemical reaction that occurs when you mix baking soda and vinegar.**

18. **Explain how the Law of Conservation of Matter is affected by reactions that occur in an open system vs a closed system.**

19. **What is density and how is it measured?**