Matter Unit Assessment Study Guide

**A Proficient student can recognize that all matter is made of atoms, and atoms of the same elements are all alike, but are different from the atoms of other elements.**

1. What is matter?
2. What is an element?
3. What is an atom?
4. What is a molecule?
5. How are atoms alike? How are they different?
6. How are atoms and elements related?
7. What is a compound? What happens to their properties when substances are chemically combined?
8. Do all atoms have the same properties?
9. What is the periodic table?

**A proficient student can compare the physical properties of pure substances.**

1. What is the difference between a physical property and a chemical property?
2. What is volume and how do we measure it?
3. What is mass and how do we measure it?
4. What is weight and how do we measure it?
5. How is mass different than weight?
6. What is density and how do we calculate it?
7. What are the three most common states of matter on Earth? Describe them in terms of shape, volume, particle arrangement and particle movement.
8. What is vaporization? What is a boiling point?
9. What is melting? What is a melting point?
10. What is condensation?
11. What is sublimation?
12. What is freezing? What is a freezing point?
13. What is evaporation?
14. What is deposition?
15. Name the freezing, melting, boiling and condensation points of water in degrees Fahrenheit and in degrees Celsius.
16. Which properties that we studied are affected by the amount of matter, and which are not affected by the amount of matter?
17. Describe the atoms in a solid, and the volume and shape of a solid
18. Describe the atoms in a liquid and the volume and shape of a liquid
19. Describe the atoms in a gas and the volume and shape of a gas
20. What happens to atoms when they are heated?
21. What happens to atoms when they are cooled?
22. Describe the different phase changes, and whether thermal energy is gained or lost for:
    1. Melting, vaporization, condensation, freezing, sublimation and deposition
23. What is a physical change?
24. What is a chemical change?
25. What is needed to change a state of matter?

**A proficient student understands the concept of solubility and the factors that affect it.**

1. What is solubility?
2. What is a solution?
3. What is a solvent?
4. What is a solute?
5. What is a saturated solution?
6. What is a mixture?
7. What is a homogenous mixture?
8. What is a heterogeneous mixture?
9. What factors affect the speed that substances will go into solution?
10. What factors affect how much solute will dissolve in a solvent?
11. How does the effect of the temperature of the solvent differ when the solute is a solid compared to when the solute is a gas?
12. Why is water known as the universal solvent?