

# Unit 1: Matter – Study Guide ANSWER KEY

1. Dissolving salt in water is what kind of change? **PHYSICAL**
2. Burning wood is what kind of change? **CHEMICAL**
3. Table sugar and salt are examples of pure **SUBSTANCES**.
4. A Substance that cannot be broken down chemically into any other substance is an **ELEMENT**.
5. Atoms of different elements are **NOT THE SAME**
6. Anything that has mass and takes up space is **MATTER**
7.  $H_2O$  and  $CO_2$  are examples of **CHEMICAL FORMULAS**
8. In the examples above, what does the 2 represent? **THERE ARE 2 HYDROGEN ATOMS FOR EVERY 1 OXYGEN ATOM AND 2 OXYGEN ATOMS FOR EVERY 1 CARBON ATOM.**
9. Burning is a **CHEMICAL** change.
10. Write the Law of Conservation of Mass. **MATTER CANNOT BE CREATED NOR DESTROYED.**
11. Mendeleev created the first periodic table arranging the elements by **ATOMIC MASS** even though this is not how the periodic table is arranged today.
12. Most metals are **SOLIDS** at room temperature.
13. Metals are highly **REACTIVE SUBSTANCES**.
14. Where are the most reactive elements found? **GROUP 1 OR THE VERY LEFT SIDE OF THE TABLE.**
15. A solid has a definite **SHAPE** and definite **VOLUME**
16. Particles in a liquid are free to move in its **CONTAINER** but remain in close contact with each other.
17. Which state of matter do particles spread apart and fill all of the space available? **GAS**
18. Find the density of a rock with a volume of 100 mL and a mass of 200 grams.  
 $D = M \div V$      $? = 200g/100 \text{ mL}$      $2 \text{ g/cm}^3$
19. How much matter is in an object is called its **MASS**
20. Salt dissolving in a glass of water *is/is not* a chemical change.
21. Lemonade is classified as a **MIXTURE**
22. If something easily catches fire, you are describing its chemical **PROPERTY**
23. Soil, salad, and sugar water are **MIXTURES**
24. The greater the speed of gas particles in a container, the **GREATER** the pressure.
25. The reverse of melting is **FREEZING**
26. Freezing point of water 0 degrees Celsius is the same as **MELTING** point.
27. What is vaporization? **A LIQUID BECOMING A GAS**
28. An uncovered pot of soup is simmering on the stove, and there are water droplets above the back of the stove. What has occurred? **VAPORIZATION , THEN CONDENSATION**
29. The opposite of vaporization is **CONDENSATION**
30. Which group on the periodic table has the most elements? **METALS**
31. List facts about Bromine. **POOR CONDUCTOR OF HEAT AND ELECTRICITY, ATOMIC NUMBER 35**
32. What is ductile? **IT CAN BE PULLED OUT OR DRAWN INTO LONG WIRES.**

33. In an atom the number of protons is equal to the number **ELECTRONS**
34. All of the elements in a column on the periodic table have similar **PROPERTIES**
35. What information in the periodic table indicates the number of protons? **ATOMIC NUMBER**
36. What part of the atom has a negative charge? **ELECTRONS**
37. FREEBIE
38. What happens when chemical bonds break and new bonds form? **CHEMICAL REACTIONS**