**Chemical and Physical Changes Study Guide and Notes**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes and \_\_\_\_\_\_\_\_\_reactions cause matter to look different, but **neither** can change the amount of matter present.
2. What type of changes in matter occur when there is no new substance formed?
3. What are changes in state, volume, and density?
4. Gases such as hydrogen and oxygen can be cooled and squeezed until they become a liquid. This is a physical change because the gases go through changes in state, volume, and density.
5. What is the ability of a substance to go through a chemical change called**?**
6. What is the ability of a substance to burn called**?**
7. To burn is to go through a chemical change that produces \_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_.
8. **Chemical changes or reactions** can turn substances into one or more new \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Evidence of a chemical change having occurred could be a **change in \_\_\_\_\_\_, production of \_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_,** or **\_\_\_\_\_\_\_.**

10. Examples of chemical change occurring: paper turns black as it \_\_\_\_\_\_\_\_, when mixed together baking soda and vinegar produce \_\_\_\_\_\_\_\_\_\_; When bubbles are produced from a chemical reaction, this is evidence of \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ being produced (a gas).

Note: It is important to know that ALL bubbles and heat that are produced are **NOT** a chemical reaction.

1. Example: boiling water bubbles soda pop fizzing and making bubbles; rubbing hands together creates heat (from friction not a chemical reaction)
2. What is it called when matter is neither created nor destroyed through a physical change or chemical change?
3. What is the difference between rust and corrosion?
4. What is the ability of a substance to react chemically called **\_\_\_\_\_\_\_\_\_\_.**
5. What is the ability to produce heat and light in a chemical reaction called?
6. What physical and chemical properties are used to separate metals from their ores?
7. Can the amount of matter present in a substance be changed during a physical or chemical change?
8. What type of change occurs when matter changes from one state of matter to another state of matter?
9. What happens in a chemical change?
10. List the characteristics of a chemical change.
11. List some examples of situations that are evidence of a chemical reaction occurring.
12. Is cutting paper a physical change or chemical change?
13. Does change in state signal a chemical change or a physical change?
14. What type of change has occurred when a kernel of popcorn pops?
15. Does charcoal have the chemical property of combustibility? How do you know?
16. How does the mass of the products compare to the mass of the reactants in a chemical reaction?
17. What kind of change occurs if the elements sodium (Na) is mixed with chlorine (CI) to produce table salt (NaCI).
18. What will most likely happened to your bike by the next spring if you were to leave it out in the weather all winter?
19. List some examples of situations that result in a physical change occurring?
20. List some of the physical properties of a nail.
21. What is the process of collecting water vapor and condensing it called?
22. When a substance has the ability to burn, what type of property does it have?

33. When 2 substances are mixed together and the substances react in a way that produces heat, what type of change has occurred?

34. Explain what decaying leaves, ripening pears, and burning logs have in common.

35. When a compost pile of a saw dust pile starts heating up, what type of change is occurring?

36. At what point in the cooking process of baking a cake does a chemical reaction occur?