Name_____Block_____Due_____

Directions: Answer the following questions in preparation for Quest #2. Write your complete answers in your science notebook and label it as:

Quest #2 Study Guide for Labs 1, 2, 3, 4 and Excursion

1. What do we mean by *operational definition*? (define the term)

2. Write an operational definition for carbon dioxide (CO_2).

3. Write an operational definition for hydrogen (H).

4. Write a *sentence* for the production of hydrogen gas (from Lab 4).

5. Calcium Carbonate + HCl → Carbon dioxide + Calcium Chloride

    a. Which are the reactants?

    b. Which are the products?

6. What does this symbol (→) mean?

7. Oxygen is a colorless gas. To test for it, a glowing splint is placed in a container of gas. If the gas is oxygen, the glowing splint will burst into flames. Using this information, write an operational definition for oxygen (O_2).

8. Do you think there are **fewer** kinds, the **same** number of kinds, or **more** kinds of matter particles from which all matter is made? Explain your answer and give a reason.

9. What test would you use to find out if hydrogen (H) gas is present in a small container? (You could also use this test to prove that zinc particles are different from chalk particles)

10. What test would you use to find out if carbon dioxide (CO_2) gas is present in a small container?

11. Write a sentence for the reaction between HCl and chalk.

12. Name three (3) reactants that when added to HCl will produce carbon dioxide (CO_2) gas.

13. Name the product in the zinc and HCl reaction.

14. What do chalk, baking soda and shells have in common? Explain.

15. By what method did you collect the samples of gas from HCl and shells experiment?

16. How might you prove that zinc particles are different from chalk particles?

17. What safety precautions should you follow when doing the lit match test for the gas from the zinc and HCl reaction?

18. List the 5 signs of a chemical reaction and cite (give) an example of each from any of the labs.