Study Guide for Unit B

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What are the factors to consider when choosing to make a product?

2a. List **and** describe the stages of the life cycle of a product.

2b. Denote at what stages energy is needed and waste is produced.

2c. How can one change the amount of waste produced or the amount of energy needed?

3. What raw materials are needed to make:

a. Aluminum

b. Glass

c. Plastic

4a. Name several physical properties.

4b. Why can one not use properties such as mass to identify a substance? What other properties would not be useful?

5. Name several chemical properties.

6. How many elements are liquids at room temperature? Name them.

7. How many are gases at room temperature?

8. In what state of matter or phase state are most of the elements?

9. For each compound list the number and kinds of each element that makes up the compound:

a. NaCl

b. H2SO4

c. NH3PO4

d. CoTe

e. CO2

f. Ca(OH)2

10. Define an element. What is the smallest part of an element called? Can you break down an element by chemical and physical means?

11. Define a compound. What is the smallest part of a compound called? How can you break down a compound into simpler parts?

12. What is a mixture and how can you break apart or separate the parts of a mixture? Give some examples.

13. List the signs of a chemical reaction.

14. When you are asked to give evidence what does that mean? What is the difference between quantitative and qualitative?

15. What is a trade-off? How likely is it that one has to deal with trade-offs when making decisions?

16. Name the important families of the periodic table. Give one example of an important feature prevalent in each of these families.

Group 1

Group2

Group 17

Group 18

17. Write down one of the chemical equations we worked with in this Unit. Then indicate what the reactants are and what the products are.

18. What does it mean to say that mass is conserved?

19. What is an indicator? List an example of one and how to use it.

20. What does ppm mean as a unit?

21. What is the difference between dilute and concentrate?

22. Reduce the following fractions:

a. 10/10

b. 10/2000

c. 1000/ 10

d. 1000/ 1,000,000,000

23. Discuss the differences and similarities between the methods of incineration and dilution.

24. What is reduction in terms of the life cycle of a product?