

Name: _____

Chemical Reactions Webquest

Part 1: <http://funbasedlearning.com/chemistry/chemBalancer/>

Click on "Directions" and carefully read how you balance chemical equations.

When you are ready, click "OK" and then click "Start Game"

Try entering some numbers in the text boxes in front of each molecule. What happens?

If you forget the directions, click on the 'How to Play the Game' link. Click 'OK' when you finish reading them to return to the game.

When you think you have typed the right numbers in all the boxes, click the 'Balanced' button.

If you didn't get it right, try again.

If you did get it right, then fill in the correct answers on this worksheet

1. Reaction 1

a. Write the BALANCED chemical reaction:

b. What does "ferrum" mean? _____

c. What color is sulfur? _____

2. Reaction 2

a. Write the BALANCED chemical reaction:

b. What is HCl? _____

c. Where is it found in your body? _____

3. Reaction 3

a. Write the BALANCED chemical reaction:

b. What are pyrotechnics? _____

4. Reaction 4

a. Write the BALANCED chemical reaction:

b. What was the Hindenburg? _____

c. What gas was used in it? _____

d. What gas is used today? _____

5. Reaction 5

a. Write the BALANCED chemical reaction:

b. Why should you never touch mercury? _____

6. Reaction 5

a. Write the BALANCED chemical reaction:

b. What gas is produced when calcium metal is dropped in water? _____

7. Reaction 7

a. Write the BALANCED chemical reaction:

b. What is CH_4 ? _____

c. What is it used for? _____

8. Reaction 8

a. Write the BALANCED chemical reaction:

b. What is H_2O_2 ? _____

c. What is it used for? _____

9. Reaction 9

a. Write the BALANCED chemical reaction:

b. What two things is ammonia used for today? _____

10. Reaction 10

a. Write the BALANCED chemical reaction:

b. How does the oxidation of aluminum differ from that of iron? _____

11. Reaction 11

a. Write the BALANCED chemical reaction:

b. What gas is released when potassium permanganate is decomposed? _____

Part 2:

Your tasks:

- A. Types of reactions chart.** You will use the websites provided to research the different types of chemical reactions: combination, decomposition, single replacement, double replacement, and combustion. You will complete the chart provided to you for each type of reaction and fill it in.
- B. Real world examples of chemical reactions.- On your OWN piece of paper**
After you have completed the table, read the following real world chemistry examples and identify the type of chemical reaction. Also, write down the chemical equation that describes each reaction. Provide the specific evidence that you used in determining the type of chemical reaction for each example.
1. Rusting of iron.
 2. Soap scum formation.
 3. Burning of ethanol in an alcohol burner.
 4. The production of quicklime.
 5. Removal of tarnish from silver using aluminum.
 6. Cleaning of scale in a coffee maker using vinegar.
- C. Chemistry and baking.- On your OWN piece of paper**
Go to the site: Joy of Baking and describe how baking powder and baking soda differ chemically. How do each cause cookies and cakes rise? (You should be able to write a short paragraph.)

RESOURCE WEBSITES

Part A:

Types of chemical reactions

<http://www2.ucdsb.on.ca/tiss/stretton/CHEM1/stoich2.html>

<http://www.chemistryland.com/CHM130W/08-Equations/TypesReactions/TypesReactions.htm>

<http://www.chemteam.info/Equations/Equations.html>

Part B:

Real world chemistry

<http://www.scienceclarified.com/everyday/Real-Life-Chemistry-Vol-2/Chemical-Reactions-Real-life-applications.html>

<http://scifun.chem.wisc.edu/HomeExpts/tarnish.html>

<http://www.theguardian.com/lifeandstyle/2009/aug/23/how-to-remove-limescale>

Part C:

The chemistry of baking

<http://www.joyofbaking.com/bakingsoda.html>

A) Combination Reactions:

General equation:

Chemical equation:

How to recognize reaction:

B) Decomposition Reactions:

General equation:

Chemical equation:

How to recognize reaction:

C) Single Replacement Reactions:

General equation:

Chemical equation:

How to recognize reaction:

D) Double Replacement Reactions:

General equation:

Chemical equation:

How to recognize reaction:

E) Combustion Reactions:

General equation:

Chemical equation:

How to recognize reaction: