

**Review**

CleMis+ry: <http://genest.weebly.com>

Stop in for help every day at lunch and Tues & Thurs after school!



Virus

Name

Period

KEP

1. You will not get a high score on Monday's test by just doing this sheet. Start by doing this sheet and then go redo as many of your old sheets as you have time to do.

2. What day is the test? Monday, March 9, 2015

3. Your phone battery yesterday had 45 joules in the morning and 50 joules at lunchtime. For the battery, this change was (circle one) endothermic exothermic.

4. Imagine a test tube where aluminum powder and iron(III) oxide powder react to give off so much heat that the only products are molten iron liquid and aluminum oxide.

a. Write a balanced reaction for this. Use the periodic table to make sure the charges and formulas are correct. Use criss crossing if it helps you write the correct formula.

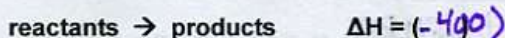


Wow! Very hot! melted iron!

b. If the reactants are considered a system this change was exothermic / endothermic)

c. If the air nearby is the system this change was (exothermic / endothermic)

d. Based on the description of the reaction above, either write - 400kJ or +400kJ in the parentheses below:

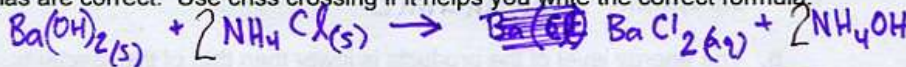


e. For the change described above, the energy flow can also be described with the words shown below -- except someone accidentally wrote the word *heat* twice. Cross off the one that does not belong.



5. Imagine a test tube where powdered barium hydroxide and powdered ammonium chloride react to form a veerrrrrryyy cold pair of products: aqueous barium chloride and aqueous ammonium hydroxide.

a. Write a balanced reaction for this. Use the periodic table to make sure the charges and formulas are correct. Use criss crossing if it helps you write the correct formula.



b. If the reactants are considered a system this change was (exothermic / endothermic)

c. If your hand is holding this reaction your hand would feel (warm / cold)

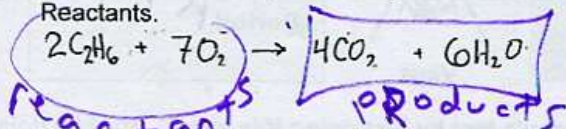
d. Based on the description of the reaction above, either write - 23 kJ or +23kJ in the parentheses below:



e. For the change described above, the energy flow can also be described with the words shown below -- except someone accidentally wrote the word *heat* twice. Cross off the one that does not belong.



6. In the below reaction, draw a big box around the products. Draw a circle around the Reactants.



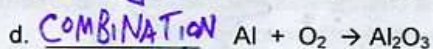
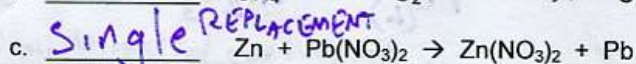
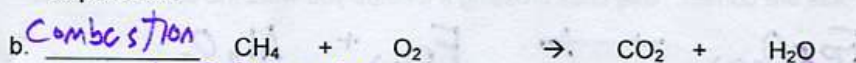
7. The number of atoms in the products must add up to the number of atoms in the reactants. This is an example of the Law of conservation of mass.

8. classify each of the reactions below as one of the following reaction types

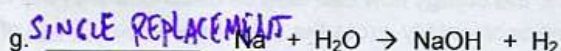
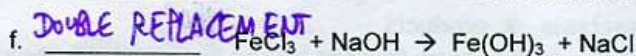
COMBUSTION,  
DECOMPOSITION,  
COMBINATION,

SINGLE REPLACEMENT,  
DOUBLE REPLACEMENT

- a. Combustion any reaction that has oxygen as a reactant and water and carbon dioxide as products



- e. SINGLE REPLACEMENT The reaction we did in lab last week with the nail (see your notes)



### Energy in Chemical Reactions

1. Classify the following as exothermic or endothermic:

a. The metabolism of glucose in the body provides energy. Assume that the body is the system. endothermic

b. The energy level of the products is lower than that of the reactants. EXOTHERMIC

c. 125 kJ is absorbed. ENDOTHERMIC

2. Classify the following as exothermic or endothermic reaction and give  $\Delta H$  for each:

a. Gas burning in a Bunsen burner:  $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} + 890 \text{ kJ}$   
EXOTHERMIC,  $\Delta H = -890 \text{ kJ}$

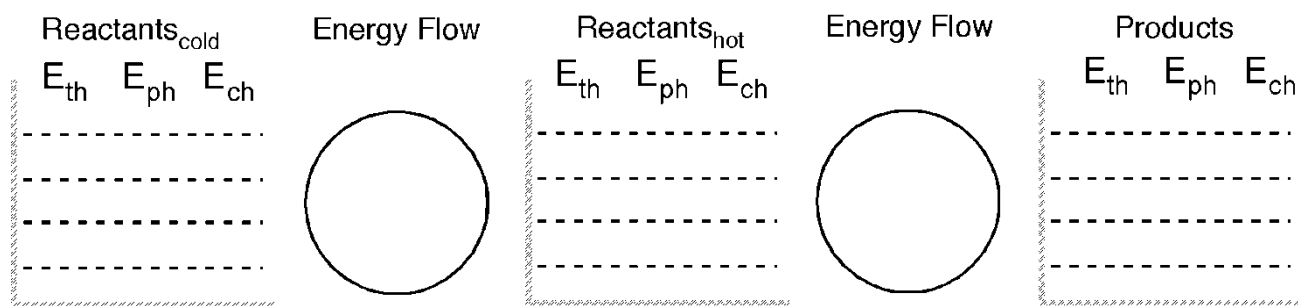
b. Dehydrating limestone:  $\text{Ca}(\text{OH})_2 + 65.3 \text{ kJ} \rightarrow \text{CaO} + \text{H}_2\text{O}$   
ENDOTHERMIC,  $\Delta H = +65.3 \text{ kJ}$

Remember that the following subjects are on the test too:

1) balancing reactions (the baseball-fish sheet)

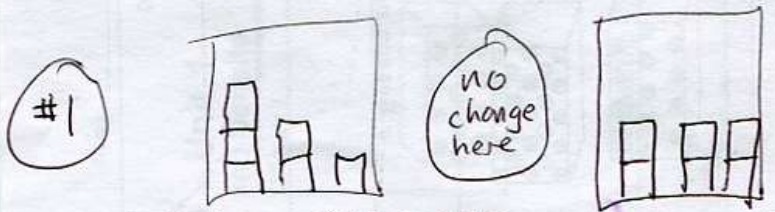
2) writing the name of molecular compounds (the volleygal sheet)

3) energy diagrams, like this (Thursday's 'three star' sheet):

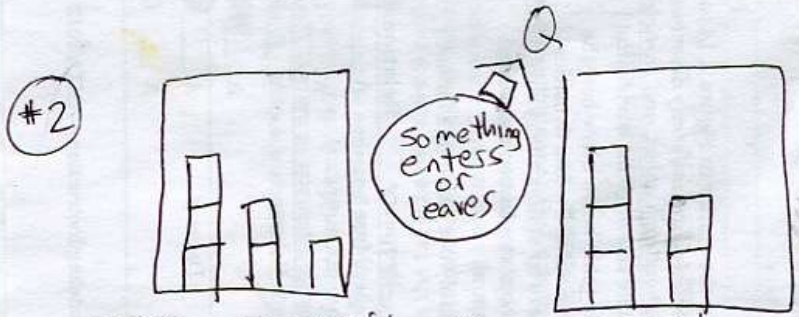


# TIPS FOR WRITING ENERGY GRAPHS.

ONLY TWO THINGS CAN HAPPEN:



THE BLOCKS REARRANGE BUT THEIR TOTAL NUMBER REMAINS THE SAME



THE BLOCK QUANTITY CHANGES ~~BY THE~~ BY THE SAME NUMBER OF BLOCKS ENTERING/LEAVING YOUR CIRCLE