

Review #1

Chemistry: <http://genest.weebly.com>

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

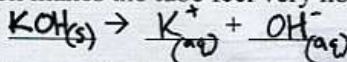


Beyonce

Name _____
Period _____
ANSWERS

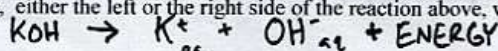
1. When potassium hydroxide pellets dissolve in water they form hydroxide ion and potassium ion, both aqueous. The reaction makes the tube feel very hot.

The balanced reaction is



Touching the reaction makes your hand (cold / warm)

Based on energy going in or coming out of the chemicals, either the left or the right side of the reaction above, write "energy".



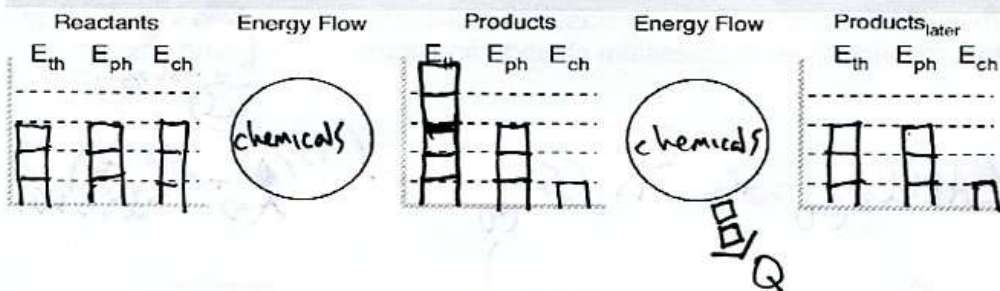
The reaction is (endothermic / exothermic)

When writing the delta H, we would write (choose one) ($\Delta H = +344$ joules) ($\Delta H = -344$ joules)

Fill in the diagram below to describe the energy change.

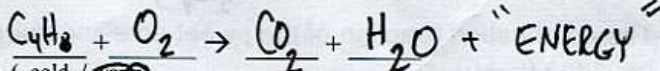
In the first step, change only Ech and Eth. Do not let any energy enter or leave the system.

In the second step, change only Eth. And draw arrows to describe energy entering or leaving the system



2. When butane (C4H8) undergoes a combustion reaction, the reaction makes a blue flame.

The reaction is



Touching the reaction makes your hand (cold / warm)

Based on energy going in or coming out of the chemicals, either the left or the right side of the reaction above, write "energy".

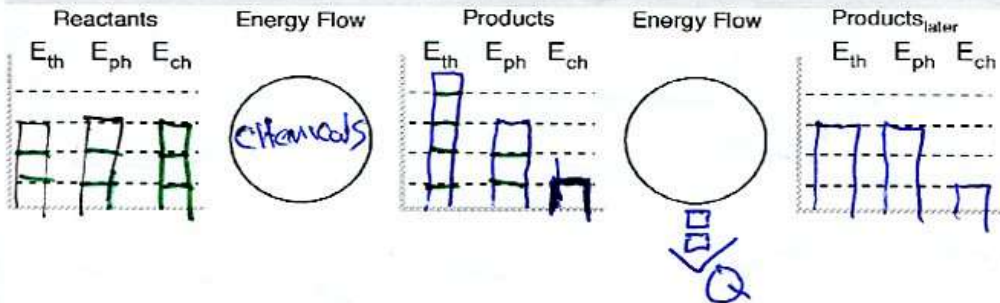
The reaction is (endothermic / exothermic)

When writing the delta H, we would write (choose one) ($\Delta H = +344$ joules) ($\Delta H = -344$ joules)

Fill in the diagram below to describe the energy change.

In the first step, change only Ech and Eth. Do not let any energy enter or leave the system.

In the second step, change only Eth. And draw arrows to describe energy entering or leaving the system



Write the unbalanced equations for the following chemical reactions.

You'll need your periodic table and the back side of your periodic table.

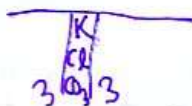
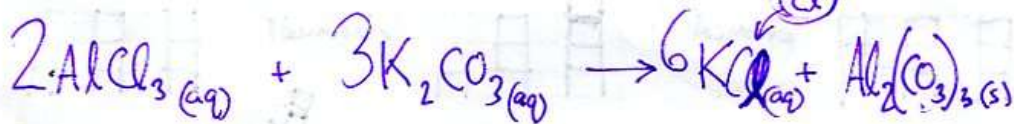
Write a balanced reaction in each case below.

Write formulas (like H₂O) and phases (like s, l, g, aq):

3. When dissolved silver nitrate (look up in your periodic table back) reacts with dissolved potassium chloride in water, silver chloride precipitate and aqueous potassium nitrate are made.



4. When aluminum chloride and potassium carbonate are dissolved in water they react to form aqueous potassium chloride and aluminum carbonate powder.



5. The combustion reaction of the sweet-smelling substance in gasoline called benzene (C₆H₆).



Review #2

Chemistry: <http://www.ck12.org>

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Supreme Court Justice Thomas

Name
Period

ANSWERS

1. When the equation
 $2 \text{Al} + 3 \text{CuSO}_4 \rightarrow \text{Al}_2(\text{SO}_4)_3 + 3 \text{Cu}$
 is balanced using the smallest whole-number coefficients, what is the coefficient of Al?
 (1) 1
 (2) 2
 (3) 3
 (4) 4

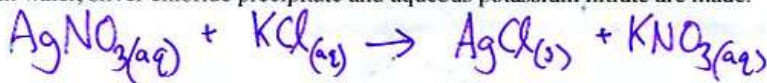
2. When the equation
 $2 \text{Cu} + 2 \text{H}_2\text{SO}_4 \rightarrow 2 \text{CuSO}_4 + 2 \text{H}_2\text{O} + 1 \text{SO}_2$
 is correctly balanced using the smallest integers, what is the coefficient of CuSO_4 ?
 (1) 1
 (2) 2
 (3) 3
 (4) 4

3. What is the formula for magnesium sulfide?
 (1) MgS
 (2) MgSO_3
 (3) MnS
 (4) MnSO_3

7. decide what type of reaction each is:
 a. DOUBLE $\text{KCl} + \text{Ba}(\text{OH})_2 \rightarrow \text{KOH} + \text{BaCl}_2$
 b. SINGLE $\text{Li} + \text{Fe}(\text{NO}_3)_3 \rightarrow \text{LiNO}_3 + \text{Fe}$
 c. ~~COMBINATION~~
DECOMP. $2\text{MgO} \rightarrow 2 \text{Mg} + \text{O}_2$

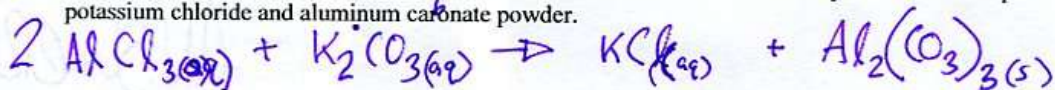
For the following three descriptions write an UNBALANCED reaction that shows phases (s, l, g, aq).

8. When dissolved silver nitrate (look up in your periodic table back) reacts with dissolved potassium chloride in water, silver chloride precipitate and aqueous potassium nitrate are made.

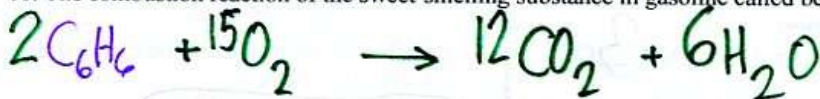


4. What is the correct name for N_2O_5 ?
 (1) nitrogen oxide
 (2) dinitrogen pentoxide
 (3) nitrate
 (4) nitride oxide
5. An unknown element X can form a compound with the formula XBr_3 . In which group of the Periodic Table would element X be found?
 (1) 1
 (2) 2
 (3) 13
 (4) 14
6. Which group on the Periodic Table contains elements that react with bromine to form compounds with the general formula XBr_2 ?
 (1) Group 1
 (2) Group 2
 (3) Group 14
 (4) Group 18

9. When aluminum chloride and potassium carbonate are dissolved in water they react to form aqueous potassium chloride and aluminum carbonate powder.



10. The combustion reaction of the sweet-smelling substance in gasoline called benzene (C_6H_6).



11. Classify the following as exothermic or endothermic:

- a. A reaction with $\Delta H = -550 \text{ kJ}$ **EXOTHERMIC**
- b. A reaction where energy level of the products is higher than that of the reactants. **ENDOTHERMIC**
- c. A plant can turn low energy CO_2 into energy-rich $\text{C}_6\text{H}_{12}\text{O}_6$. **ENDOTHERMIC**

12. Make TWO check marks 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 endothermic

$\Delta H = +890 \text{ kJ}$ $\Delta H = -890 \text{ kJ}$

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

exothermic endothermic

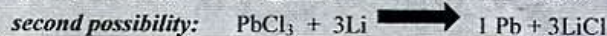
$\Delta H = +65.3 \text{ kJ}$ $\Delta H = -65.3 \text{ kJ}$

13. Define each:

a. Empirical: **something based on actually doing an experiment; based on doing**

b. Theoretical: **something based on prior knowledge; based on just thinking**

14. Imagine you are trying to choose from two reactions happening in a lab. One reaction is correct, one is wrong.



Your friend wants to just look up the answer. But you want to do an experiment.

- a) Your friend seems to be a fan of (empirical / theoretical) chemistry
- b) You, meanwhile, go to the lab, do the experiment, and find it takes 0.411 moles LITHIUM reacted with 0.137 moles of LEAD.

• This ratio of $\frac{\text{Li moles}}{\text{Pb moles}}$ is $\frac{3}{1}$

- So the correct equation above is the (first/second) equation.

