

Test Review

- Products E Chemicals are mixed and get hot.
- Exothermic A The chemicals before the reaction.
- Physical change F When chemical bonds are broken and new substances are formed.
- Chemical reaction C A chemical reaction that gets cold.
- Endothermic D The result of a chemical reaction.
- Reactants B No new chemicals are formed.

- Coefficient B Correct way to smell chemicals
- Wafting A Tells you the number of molecules.
- Ammonia C Should never be combined with Chlorine bleach.
- Arrow D Means "produces" or "creates".
- Precipitate F Tells you the number of atoms in a chemical formula.
- Subscript E When a liquid turns cloudy. Means a solid was formed.

N Endothermic or Exothermic Reaction?

X Two chemicals are mixed and get hot?
N Heat goes into the reaction?
N An activated cold pack?
N Two chemicals are mixed and get cold?
X Combustion?
X Heat comes out of a reaction?
X An activated heat pack?

C Bubbles are formed. P Evaporation
P Melting P Ripping
C Gets cold C Photosynthesis
C Color changes C Gets hot
P Boiling C Changes smell
P Digestion P Dissolving Salt
C Changes temperature C Combustion
P Chewing C Changes taste

Round up
 Find the atomic masses for the following elements

A. Lithium = 7 E. Aluminum = 27
 B. Helium = 4 F. Bromine = 80
 C. Iron = 56 G. Uranium = 238
 D. Silver = 108 H. Nickel = 59

Find the molecular mass of the following compounds.

Cl_2 $35 \text{ amu} \times 2 = 70 \text{ amu}$
 Li_2O $(7 \text{ amu} \times 2) + 16 \text{ amu} = 30 \text{ amu}$
 $\text{Na}(\text{NO}_3)$ $23 \text{ amu} + 14 \text{ amu} + (16 \text{ amu} \times 3)$
85 amu

How many total molecules are there?

2 $2\text{H}_2\text{O}$ 2 $2\text{Be}_3\text{N}_2$ 3 $3\text{C}_2\text{F}_4$
5 $5\text{Na}_2\text{S}$ 4 4Br_2 2 $2\text{K}(\text{OH})$

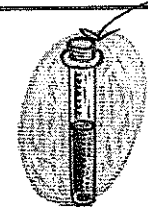
How many total atoms are there?

6 $2\text{H}_2\text{O}$ 10 $2\text{Be}_3\text{N}_2$ 14 $3\text{C}_2\text{F}_4$
15 $5\text{Na}_2\text{S}$ 8 4Br_2 6 $2\text{K}(\text{OH})$

Products are on the Right side of a chemical reaction.
 Reactants are on the Left side of a chemical reaction.
 The arrow points to the Products.

$\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O} + \text{energy}$

Circle the first reactant: $\text{C}_6\text{H}_{12}\text{O}_6$
 Name the first product: Carbon Dioxide
 How many hydrogen atoms on the product side? 36
 How many oxygen atoms on the reactant side? 8
 Is this respiration or photosynthesis?
 What kind of reaction is it? Respiration
 Endothermic or exothermic? Exothermic

 Open or closed reaction? Closed
 Will the mass of his products be greater than, less than, or equal to his reactants?
Equal
 Why? Because nothing can escape
 What does this set up allow us to prove?
Law of Conservation of Mass

The Coefficient tells you how many molecules

1. Transition Metals D	<input checked="" type="checkbox"/> Become positive ions.	1. Oxidation #s D	<input checked="" type="checkbox"/> Tells you that atoms are more stable with 8 valence electrons.
2. Noble Gases E	<input checked="" type="checkbox"/> Gain electrons, becoming negative ions.	2. Octet Rule A	<input checked="" type="checkbox"/> A molecule of two atoms of the same element.
3. Metals A	<input checked="" type="checkbox"/> Compounds formed when electrons are shared.	3. Diatomic Molecule B	<input checked="" type="checkbox"/> When dissolved in water, a compound that allows electricity to pass.
4. Nonmetals B	<input checked="" type="checkbox"/> Do not have consistent oxidation numbers.	4. Electrolyte C	<input checked="" type="checkbox"/> How many electrons are gained or lost.
5. Ionic F	<input checked="" type="checkbox"/> Do not combine into compounds.	5. Valence Electrons E	<input checked="" type="checkbox"/> Outermost electrons of an atom.
6. Covalent C	<input checked="" type="checkbox"/> Compounds formed between positively and negatively charged atoms.		

Give the symbol and atomic number of these elements.

Oxygen (O) 8 Boron (B) 5
 Nitrogen (N) 7 Bromine (Br) 35
 Helium (He) 2 Iron (Fe) 26
 Sodium (Na) 11 Mercury (Hg) 80

Give symbols and number of valence electrons for these: *Look at group #*

Aluminum (Al) 3 Beryllium (Be) 2
 Neon (Ne) 8 Sodium (Na) 1
 Chlorine (Cl) 7 Calcium (Ca) 2
 Boron (B) 3 Sulfur (S) 6

How many Aluminums in Al_2O_3 ? 2
 How many Magnesiums in $MgCl_2$? 1
 How many Sodiums in Na_3N ? 3
 How many Oxygens in $Li(NO_3)_3$? 3

How many total atoms in Al_2O_3 ? 5 *2+3*
 How many total atoms in $MgCl_2$? 3 *1+2*
 How many total atoms in Na_3N ? 4 *3+1*
 How many total atoms in $Li(NO_3)_3$? 5 *1+1+3*

How many electrons are gained or lost?

K^{1+} <u>Lost 1</u>	Fe^{2+} <u>Lost 2</u>
B^{3+} <u>Lost 3</u>	F^{-} <u>Gained 1</u>
S^{2-} <u>Gained 2</u>	N^{3-} <u>Gained 3</u>
He^0 <u>—</u>	Si^{4+} <u>Lost 4</u>

How many electrons will be gained or lost by:

K <u>Lost 1</u>	Ar <u>0</u>
Al <u>L 3</u>	Br <u>G 1</u>
O <u>G 2</u>	Ca <u>L 2</u>
Be <u>L 2</u>	H <u>L 1</u>

Draw the Lewis Dot Diagrams for the following.

Carbon 	Lithium 	Sulfur 	Argon
Aluminum 	Nitrogen 	Magnesium 	Chlorine

Draw 3 different Lewis Dot Diagrams for Aluminum.

Use Electron Arrows to Combine Magnesium and Fluorine

Mg^{2+} F^{-}

$Mg \rightarrow \quad \leftarrow F$

$Mg_2 F$