

Name: \_\_\_\_\_

Period: \_\_\_\_\_

**Classifying Chemical Reactions**

**Questions To Ask:**

**Types of Reactions:**

[ ]

Yes →

[ ]

No ↓

[ ]

Yes →

[ ]

No ↓

[ ]

Yes →

[ ]

No ↓

[ ]

Yes →

[ ]

No ↓

[ ]

Yes →

[ ]

Name: \_\_\_\_\_

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1. Displacement	A. To burn something.	1. Single Displacement Reaction	A. The metals in two compounds switch places.
2. Addition	B. To push something out of the way.	2. Addition Reaction	B. An element replaces one of the elements in a compound.
3. Combustion	C. To combine things.	3. Combustion Reaction	C. Two elements combine to form a compound.
4. Decomposition	D. To create something new from ingredients.	4. Double Displacement Reaction	D. A compound breaks up into its elements.
5. Synthesize	E. To break something apart.	5. Decomposition Reaction	E. A fuel burns in oxygen, creates heat, and usually produces CO <sub>2</sub> .

Which type of reaction has only one reactant?

Which type of reaction has two compound reactants and two compound products?

Which type of reaction always has oxygen as a reactant?

Which type of reaction has only one product?

Which type of reaction has an element and a compound as reactants?

Directions: Complete the chart below.

Element	Number of Valence Electrons	# of electrons gained or lost to fill outer energy level	Charge (Oxidation Number)
Sodium			
Chlorine			
Beryllium			
Fluorine			
Lithium			
Oxygen			
Potassium			
Magnesium			
Phosphorous			
Aluminum			

A. Show how the following atoms form covalent bonded compounds using Lewis Dot Structures. Also show resulting dashed line structures and chemical formula.

Elements	Lewis Dot Play	Dashed Line Structure	Chemical Formula
2H and O Example	<pre> H   O        H   H           </pre>	<pre> H—O—H           </pre>	H <sub>2</sub> O
3H and N			
4H and C			
2Br			

**Type of Reaction**

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\_\_\_\_\_

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\_\_\_\_\_

**Balance the reactions:**

\_\_\_\_\_ Na<sub>2</sub>S + \_\_\_\_\_ Zn(NO<sub>3</sub>)<sub>2</sub> → \_\_\_\_\_ Na(NO<sub>3</sub>) + \_\_\_\_\_ ZnS

\_\_\_\_\_ Li + \_\_\_\_\_ N<sub>2</sub> → \_\_\_\_\_ Li<sub>3</sub>N

\_\_\_\_\_ KClO → \_\_\_\_\_ KCl + \_\_\_\_\_ O<sub>2</sub>

\_\_\_\_\_ CH<sub>4</sub> + \_\_\_\_\_ O<sub>2</sub> → \_\_\_\_\_ H<sub>2</sub>O + \_\_\_\_\_ CO<sub>2</sub>

\_\_\_\_\_ Mg + \_\_\_\_\_ Ag(NO<sub>3</sub>) → \_\_\_\_\_ Mg(NO<sub>3</sub>)<sub>2</sub> + \_\_\_\_\_ Ag