

Name: _____ Date: _____ Period: _____

Review Worksheet I: Chemical Formulas, Types of Reactions, Balancing Equations

A. Write the correct chemical formulas for the following.

For elements, write the symbol (no charge!); remember diatomic molecules (HOB rFINCl) have a subscript of 2.

For ionic compounds, look up the oxidation numbers and balance the charges.

For covalent compounds, use prefixes—there are no charges involved.

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|----------------------|-------|----------------------|-------|
| 1. Lithium fluoride | _____ | 2. Aluminum fluoride | _____ |
| 3. Iron(III) iodide | _____ | 4. Calcium hydroxide | _____ |
| 5. Lithium | _____ | 6. Sulfur trioxide | _____ |
| 7. Hydrochloric acid | _____ | 8. Molecular sulfur | _____ |
| 9. Phosphoric acid | _____ | 10. Calcium nitrate | _____ |

B. Balance the following chemical equations; if balanced, write *balanced*. Indicate the type of reaction.

S = Synthesis C = Combustion D = Decomposition SR = Single Replacement DR = Double Replacement

		Rxn Type
11.	_____ Na ₂ O(s) → _____ Na(s) + _____ O ₂ (g)	
12.	_____ S ₈ + _____ O ₂ → _____ SO ₂	
13.	_____ HBr + _____ NaOH → _____ NaBr + _____ H ₂ O	
14.	_____ F ₂ + _____ AlCl ₃ → _____ AlF ₃ + _____ Cl ₂	
15.	_____ K ₃ PO ₄ + _____ CuBr ₂ → _____ KBr + _____ Cu ₃ (PO ₄) ₂	
16.	_____ C ₆ H ₈ + _____ O ₂ → _____ CO ₂ + _____ H ₂ O	

C. Write the correct formulas and then balance equations for the following chemical reactions.

17.	Iron and iodine react, synthesizing iron(III) iodide.
18.	Lithium and aluminum fluoride form aluminum and lithium fluoride.
19.	Liquid sulfur trioxide decomposes into solid sulfur and oxygen gas.
20.	Sodium hydroxide and calcium nitrate produce sodium nitrate and calcium hydroxide.
21.	Sodium hydroxide neutralizes hydrochloric acid to form sodium chloride and water.

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Review Worksheet II: Chemical Formulas, Types of Reactions, Balancing Equations

A. Write the correct chemical formulas for the following.

For elements, write the symbol (no charge!); remember diatomic molecules (HOB rFINCl) have a subscript of 2.

For ionic compounds, use the oxidation numbers and balance the charges. For covalent compounds, use prefixes (no charges).

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|----------------------------|------------------------------|
| 1. Sodium fluoride _____ | 2. Diarsenic pentoxide _____ |
| 3. Aluminum chloride _____ | 4. Molecular oxygen _____ |
| 5. Calcium nitrate _____ | 6. Arsenic _____ |
| 7. Sodium sulfate _____ | 8. Molecular iodine _____ |
| 9. Sulfuric acid _____ | 10. Lead(IV) iodide _____ |

B. Balance the following chemical equations; if balanced, write *balanced*. Indicate the type of reaction.

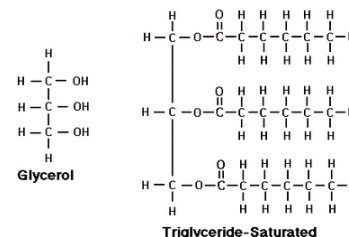
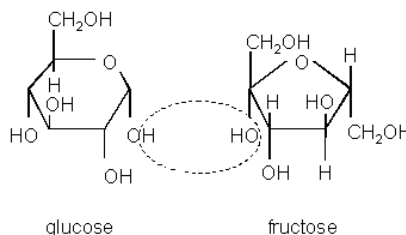
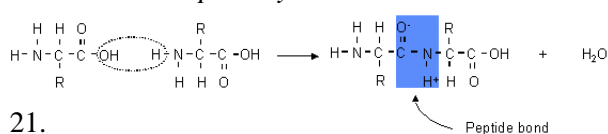
S = Synthesis C = Combustion D = Decomposition SR = Single Replacement DR = Double Replacement

		Rxn Type
11.	_____ Na ₂ SO ₄ + _____ FeBr ₃ → _____ NaBr + _____ Fe ₂ (SO ₄) ₃ (g)	
12.	_____ C ₄ H ₈ + _____ O ₂ → _____ CO ₂ + _____ H ₂ O	
13.	_____ HF + _____ KOH → _____ KF + _____ H ₂ O	
14.	_____ Li ₂ O → _____ Li + _____ O ₂	
15.	_____ P + _____ O ₂ → _____ P ₃ O ₅	
16.	_____ Cl ₂ + _____ NaI → _____ NaCl + _____ I ₂	

C. Write the correct formulas and then balance equations for the following chemical reactions.

17.	Diarsenic pentoxide decomposes into arsenic and oxygen.
18.	Potassium and aluminum chloride produce aluminum and potassium chloride.
19.	Lead and iodine yield lead(IV) iodide.
20.	Sodium hydroxide and sulfuric acid neutralize to produce sodium sulfate and water.

D. Condensation Reactions. Label the following reactions as the synthesis of *carbohydrates*, *lipids*, or *proteins* or as the *photosynthesis* reaction.



23. _____ 24. _____