

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

### Unit 3 Test

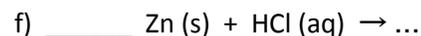
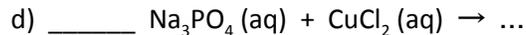
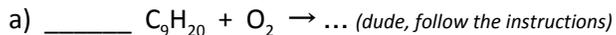
Score	Description
6	Demonstrates full understanding of the concepts involved, clearly shows all reasoning, uses notation correctly and consistently, makes no algebraic errors. If errors are made, they are minor and do not reflect gap in understanding. Evidence of understanding provides an example for other learners.
5.5	
5	Demonstrates a full or almost full understanding of the concepts but shows minor gaps in reasoning, doesn't use notation consistently, or makes an algebraic error. Errors made reveal small gap in understanding.
4	Inconsistent in demonstrating understanding. Demonstrates some conceptual understanding, may confuse reasoning or lack detail, provide an incomplete answer, use notation inconsistently, or make more than one algebraic error. Errors made reveal significant gap in understanding.
3	Inconsistent in demonstrating understanding. Demonstrates weak or no conceptual understanding. Shows confused reasoning and/or multiple algebraic errors.
I	Not enough evidence is provided to evaluate understanding. This is determined at the teacher's discretion.

Learning Target	Score
3.1—I can identify the type of reaction that occurs	
3.2—I can balance chemical equations	
3.3—I can write a complete balanced chemical equation and model what it represents	

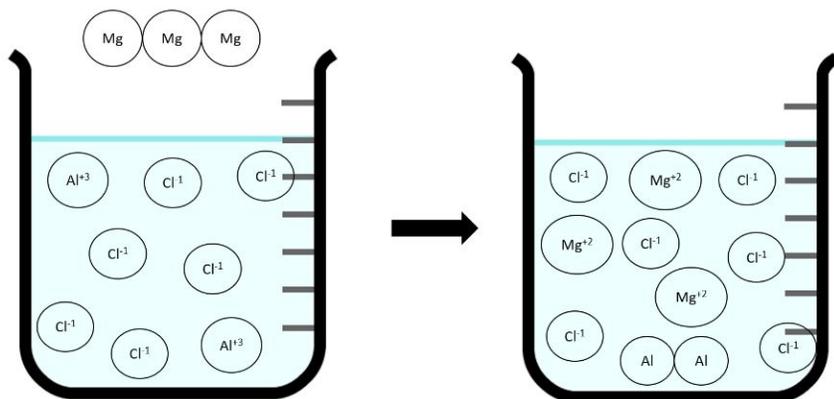
### 3.1—I can identify the type of reaction that occurs

1) Given the reactants, identify the type of the reaction that occurs using the following key:

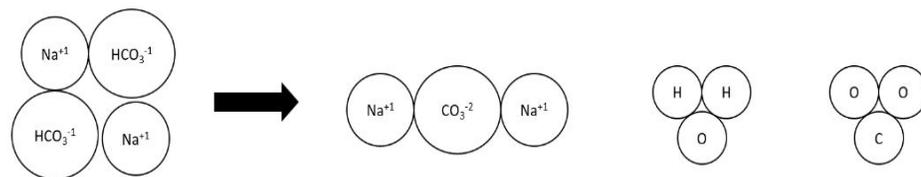
**S** = Synthesis    **D** = Decomposition    **SR** = Single Replacement    **DR** = Double Replacement    **C** = Combustion



2) Based on the particle diagram provided, identify the type of reaction that occurred.

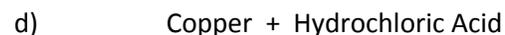


Type of Reaction  
\_\_\_\_\_



Type of Reaction  
\_\_\_\_\_

3) Given the reactants, determine if a reaction will happen (**Yes / No for each**). Assume each *compound* below is aqueous.



How do you rate your understanding?

- 6 I "get" it
- 5 I'm almost there
- 4 I need help
- 3 I need lots of help

How I rate your understanding

- 6 Complete understanding
- 5.5 Complete understanding, minor flaws
- 5 Good understanding, some flaws
- 4 Some understanding, some flaws
- 3 Little understanding, many flaws

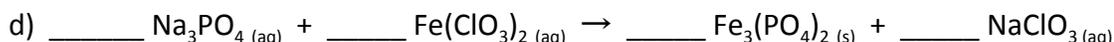
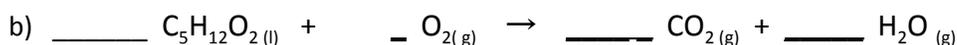
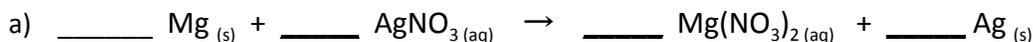
My Feedback to you

### 3.2—I can balance chemical equations

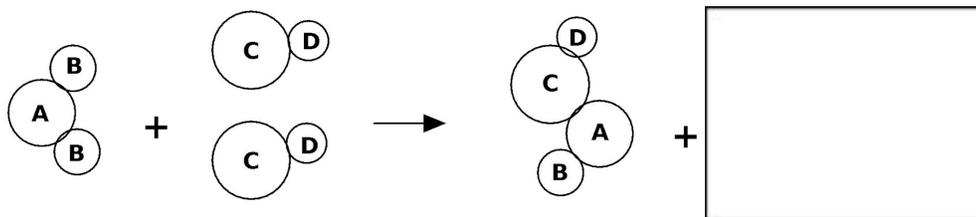
\_\_\_\_\_ 4) What does it mean to *balance* a chemical equation?

- The same number of atoms are on each side of the equation
- Making sure the ionic charges are neutral on each side of the equation
- The same number of each type of atom is on each side of the equation

5) Balance the following reactions by providing the appropriate coefficient in the spaces. An empty space will be assumed to represent the coefficient "1."



6) Use the diagram below to answer the questions below.



What should be the **total number of D atoms** on the right side of the equation? \_\_\_\_\_

What is the chemical formula of the **missing product** molecule? \_\_\_\_\_

Write the **complete balanced** chemical equation for the reaction pictured.

7) Provide a particle diagram of what the balanced chemical reaction below represents. Make sure your particles are labeled.



Reactants	Products
+	+

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My Feedback to you

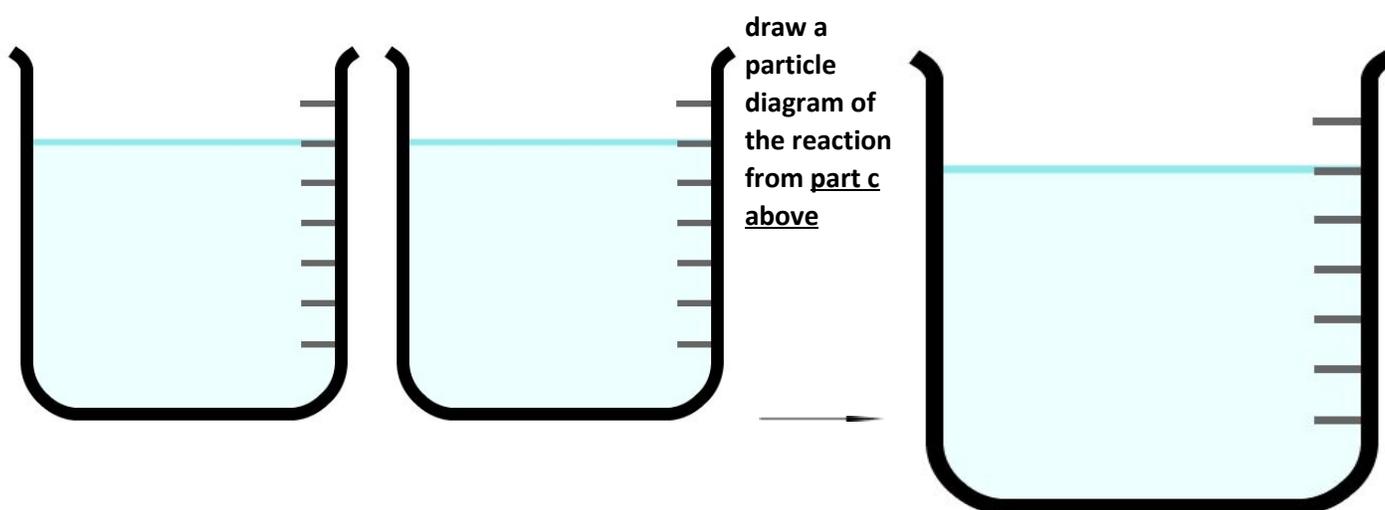
**3.3—I can write a complete balanced chemical equation and model what it represents**

8) For the following reactions, provide the complete balanced chemical equation, including states of matter.

a) Solid Aluminum Oxide is heated until it decomposes.

b) In a candle, solid wax ( $C_{23}H_{48}$ ) combusts.

c) Lithium Hydroxide solution is poured into Magnesium Nitrate solution. (*provide balanced equation in space below*)



d) Solid aluminum is placed in a solution of silver nitrate

e) In the reaction from part D above, identify which element gained/lost electrons and indicate how many.

_____	gained	_____	electron(s)	_____	lost	_____	electron(s)
<i>Element symbol</i>		<i>How many?</i>		<i>Element symbol</i>		<i>How many?</i>	

9) Old fashion black powder that was used for muskets is a mixture of solid carbon dust, sulfur powder, and solid potassium nitrate. When it reacts, it makes solid potassium sulfide, nitrogen gas, and carbon dioxide. **Write the full reaction, provide all states of matter and balance completely.**

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My Feedback to you