Chemistry Unit Schedule: Weeks 19-21

Unit	Chapter(s)	Essential Questions:
Reaction Types and Equations	8	-How do we write reaction equations to conform with the law of conservation of matter? -How can we tell that a reaction has occurred?
Stoichiometry & Moles	9	-How can we count the atoms found in a particular substance?

Timeline:

Date	In Class	Activities	Homework
Week 19	Chapter 8 Pretest Discuss Chapter 8	Video: "An Inconvenient Truth" Correct ?'s #1-5 p. 254, 1-4 p. 264, 1-3 p. 267	Read Chapter 8 and take notes Do?'s #1-5 p. 274, 1-4 p. 284, 1-3 p. 287 Video: "An Inconvenient Truth" Do Study Questions for video—see below
Week 20	Discuss Chapter 8	Video: "An Inconvenient Truth"	Video: "An Inconvenient Truth" Do Study Questions for video—see below Study for Chapter 8 Test
Week 21	Chapter 8 Test	Lab: "Types of Chemical Reactions" p. 81 *Addison-Wesley Chemistry Laboratory Manual* Wksts: "Writing Balanced Equations" p. 11-12 and "The Balancing Process" p. 13-14 *Chemistry: Concepts and Applications Problem Solving Transparency Masters* Wksts: "A Chemical Equation" p. 31-32 and "Types of Chemical Reactions" p. 33-34 *Chemistry: Concepts and Applications Basic Concepts Transparency Masters and Worksheets*	Read Lab: "Types of Chemical Reactions" p. 81 *Addison-Wesley Chemistry Laboratory Manual* and write procedure Study for Chapter 8 Test Read Chapter 9 and take notes Do ?'s #1-3 p. 301, 1-5 p. 311, 1-4 p. 318 Study for Chapter 9 Pretest
Week 22	Chapter 9 Pretest Discuss Chapter 9	Correct ?'s #1-3 p. 301, 1-5 p. 311, 1-4 p. 318	

An Inconvenient Truth
Study Questions

Directions: Answer the following questions on a separate sheet of paper based on what you learned from the video.

1. What is the "inconvenient truth" that Al Gore is talking about?
2. List and describe five factors that play a part in this "inconvenient truth".
3. List and describe five effects that this "inconvenient truth" is having.
4. Why is this issue a difficult one to solve? List and describe at least five reasons.
5. Why does Al Gore argue that the "inconvenient truth" is a moral issue rather than just a political issue at this point in history?
6. What does Al Gore suggest that we do about this "inconvenient truth"?

For more information on the video, the science involved, and what you can do to take action; see the website below:

http://www.climatecrisis.net/

Chemistry
Rules for Balancing Chemical Equations

1. Write the equation to be balanced on your paper:

Ex: $AlBr_3 + (NH_4)_2CO_3$ _ $Al_2(CO_3)_3 + NH_4Br$

2. Next, say the word equation to yourself:

Ex: Aluminum Bromide + Ammonium Carbonate _ Aluminum Carbonate + Ammonium Bromide

3. Identify any polyatomic ions in the equation. Ex:
   - Ammonium = NH_4
   - Carbonate = CO_3
4. Then, separate the positive (or in covalent compounds more positive) and negative (or in covalent compounds more negative) parts of each reactant and product. Write these below the equation:

$AlBr_3$	+	$(NH_4)_2CO_3$	_	$Al_2(CO_3)_3$	+	NH_4Br
Al		NH_4		Al		NH_4
Br		CO_3		CO_3		Br

5. Then, write numbers that show how many units of reactants and products there are:

$AlBr_3$	+	$(NH_4)_2CO_3$	_	$Al_2(CO_3)_3$	+	NH_4Br
1Al		2NH_4		2Al		1NH_4
3Br		1CO_3		3CO_3		1Br

6. Then, circle or highlight the reactants and products that do not match:

$AlBr_3$	+	$(NH_4)_2CO_3$	_	$Al_2(CO_3)_3$	+	NH_4Br
1Al		2NH_4		2Al		1NH_4
3Br		1CO_3		3CO_3		1Br

7. Next, follow this simple rule to change the **coefficients** of reactants and products in the correct order. Balance:
   - **Metals** (or things that behave like metals), then
   - **Nonmetals** (or things that behave like nonmetals), then
   - **Hydrogen**, then
   - **Oxygen**
8. So, in the reaction above, first we balance **Aluminum** by adding a coefficient. Notice that this changes the number of units of Al and Br on the reactants side:

2$AlBr_3$	+	$(NH_4)_2CO_3$	_	$Al_2(CO_3)_3$	+	NH_4Br
2Al		2NH_4		2Al		1NH_4
6Br		1CO_3		3CO_3		1Br

9. Next, we balance **Bromine** by adding a coefficient. Notice that this changes the number of units of NH_4 and Br on the products side:

$2AlBr_3$	+	$(NH_4)_2CO_3$	_	$Al_2(CO_3)_3$	+	$6NH_4Br$
2Al		$2NH_4$		2Al		$6NH_4$
6Br		$1CO_3$		$3CO_3$		6Br

10. Finally, we balance **Ammonium** and **Carbonate** by adding a coefficient. Notice that this changes the number of units of NH_4 and CO_3 on the reactants side:

$2AlBr_3$	+	$3(NH_4)_2CO_3$	_	$Al_2(CO_3)_3$	+	$6NH_4Br$
2Al		$6NH_4$		2Al		$6NH_4$
6Br		$3CO_3$		$3CO_3$		6Br

11. Now, we have the same number each kind of atom on both sides of the equation, and thus conform to the **Law of Conservation of Mass**.
12. We're done!! Yeah!!