6.1	**p. 227 # 1,2,3,4**
1	'arrow' → means 'yields' or 'forms'. It also separates the reactants (on left) from the reactants (on right)
2	a) acetic acid + sodium hydrogen carbonate → water + carbon dioxide + sodium acetate b) alumin + oxygen → aluminum oxide c) propane + oxygen → water + carbon dioxide *careful with this one, the products are stated first in the sentence! Don't be fooled.
3	$C(s) + O(g) \rightarrow CO_2 (g)$ a) carbon + oxygen → carbon dioxide + energy b) carbon is a solid, oxygen is a gas, carbon dioxide is a gas c) I know that this represents a chemical change because a *new* substance is formed. I did not have carbon dioxide at the beginning and I have it at the end! d) I would expect to see nothing actually. The solid (carbon) has disappeared and all that is produced is a gas which I can't see.
4	$AgNO_3 (aq) + NaCl (aq) \rightarrow AgCl (s) + NaNO_3 (aq)$ a) Reactants = silver nitrate and sodium chloride Products = silver chloride and silver nitrate b) Silver nitrate ($AgNO_3$) is dissolved in water and sodium nitrate ($NaNO_3$) is dissolved in water. I know because they have (aq) after their formula. c) There is only one solid, so it must be the white solid! That solid is AgCl or silver chloride d) Both of the reactants are soluble in water since they are aqueous (aq).

6.3 p. 232 # 2,6 (conservation)	
2	a) Law of Conservation states that in any given reaction, the mass of the reactants equals the mass of the products. b) No atoms are created or destroyed – atoms are just moved around and

	create new bonds. c) A balanced equation best represents Law of Conservation because the #'s of atoms are equal. A balanced equation shows you where every atom goes. No atom is created or destroyed.
6	20 g + 45 g = 65 g of reactants 55 g = mass of products remaining. Therefore 10 g of gas produced. There must have been 65 g of reactants. Since a gas was released and not captured and therefore was not part of the measured mass, there must have been 65 – 55 = 10 grams of gas produced which escaped.
6.4 p. 236 # 4,8, 7a-f (equations & balance)	
4	A subscript is the small number below an element. For example: H_2O The subscript '2' tells us there is 2 hydrogen atoms. A coefficient is a large number in front and it tells us how many of that compound there is. For example: 3 H_2O - the '3' tells us there is 3 molecules of water. (so there is 3x2 or 6 atoms of hydrogen and 3 atoms of oxygen.
8	a) word equation: Ammonium dichromate + heat → nitrogen gas + water + chromium oxide b) ammonium dichromate = 2.5 g → 1.0 grams of N_2 and H_2O Because of the Law of Conservation of mass, there must have been 1.5 g of chromium oxide produced (1.5 + 1.0 = 2.5g)
7	a) it is already balanced b) $2K + Br_2 \rightarrow 2KBr$ c) $2H_2O_2 \rightarrow 2H_2O + O_2$ d) $4Na + O_2 \rightarrow 2Na_2O$ e) $N_2 + 3H_2 \rightarrow 2NH_3$ f) it is already balanced ***If you choose to do more for practice, the answers are in the back of the text!** ☺

6.5 p. 239 # 1,2,4 (synthesis, decomp)	
1	a) decomposition b) synthesis

	c) synthesis d) decomposition
2	a) **$ZnCl_2 \rightarrow Zn + Cl_2$** * remember metals have no subscript when they are in elemental form (on their own). You must follow ionic/polyatomic criss-cross rules when they are in a compound. Already balanced!! ☺ b) **$2K + I_2 \rightarrow 2KI$** *remember iodine is a HOFBrINCl element. It always forms a diatomic molecule when on its own. c) **$K_2O + H_2O \rightarrow 2KOH$** * remember 'hydroxide' is a polyatomic (OH-) d) **$CaCO_3 \rightarrow CaO + CO_2$**
4	a) $H_2(g) + Cl_2(g) \rightarrow 2HCl(g)$ synthesis b) $2H_2O_2(l) \rightarrow 2H_2O(l) + O_2(g)$ decomposition c) $2KClO_3(s) \rightarrow 2KCl(s) + 3O_2(g)$ decomposition d) $3H_2 + N_2 \rightarrow 2NH_3$ synthesis e) $4Al + 3O_2 \rightarrow Al_2O_3$ synthesis
p. 243 # 3,4 (single,double displacement)	
3	a) single b) double c) single d) double e) single
4	a) $2Al + Fe_2O_3 \rightarrow Al_2O_3 + 2Fe$ b) $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + 2NaCl$ c) $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$ d) $3AgNO_3 + Na_3PO_4 \rightarrow Ag_3PO_4 + 3NaNO_3$ e) $Ca + 2H_2O \rightarrow H_2 + Ca(OH)_2$
p. 236 #7 g-n (balance practice)	
7	g) $CaSO_4 + 2KOH \rightarrow Ca(OH)_2 + K_2SO_4$ h) $Ba + 2HNO_3 \rightarrow H_2 + Ba(NO_3)_2$ i) $H_3PO_4 + 3NaOH \rightarrow 3H_2O + Na_3PO_4$ j) $C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$ k) $Al_4C_3 + 12H_2O \rightarrow 3CH_4 + 4Al(OH)_3$ l) $FeBr_3 + 3Na \rightarrow Fe + 3NaBr$ m) $2Fe + 3H_2SO_4 \rightarrow 3H_2 + Fe_2(SO_4)_3$ n) $2C_2H_6 + 7O_2 \rightarrow 4CO_2 + 6H_2O$