Unit #6, Chapter 9 Outline
Solubility Equilibria

Lesson	Topics Covered	Homework Questions and Assignments
1	**Solubility:** • definition • solubility rules (memorize them) **Ksp:** • dissociation equations • Ksp expressions	1. Read pages 430 – 431 2. On page 432, do questions 9 – 12a. Answers on page 455 are correct except: Q10 should be Ag_2CO_3 (s) ↔ $2Ag^{+}$ (aq) + CO_3^{2-} (aq) Q11 charge on PO_4 ion is 3-, so it should be: $MgNH_4PO_4$ (s) ↔ Mg^{+2} (aq) + NH_4^{+} (aq) + PO_4^{3-} (aq)
2	**Solubility Calculations:** • given Ksp, calculate solubility • given solubility, calculate Ksp	1. Read pages: 432 - 436 2. On page 433, do questions 13 – 15 (answer on page 455 for Q13 should be 2.3×10^{-16}) 3. On page 436, do questions 17a,b, 18 – 20 (Note: a "formula unit" means 1 "molecule") $n = \frac{\text{\# particles (molecules)}}{6.02 \times 10^{23} \text{ particles/mol}}$
3	**The Common Ion Effect** • sample calculations **Predicting Precipitation Reactions** • writing double displacement reactions • full ionic equations • net ionic equations (spectator ions)	1. Read pages: 436 – 438 2. On page 439, do questions 21 – 24 (answer to Q 23b should be 2.0×10^{-4}) 3. Write the full and net ionic equations that occur when the following solutions are mixed: a) $FeCl_3$ (aq) and NH_4OH (aq) b) $LiIO_3$ (aq) and $Ba(NO_3)_2$ (aq) c) KSCN (aq) and $PdCl_2$ (aq) d) $AgCH_3COO$ (aq) and H_2CrO_4 (aq)
4	**Ksp and Precipitation Reactions** • sample calculations • dilution ($C_1V_1 = C_2V_2$) • trial ion product, Qsp • if Qsp > Ksp, a precipitate will form	1. Read pages 443 – 447 2. On page 446, do questions 31 and 32 3. On page 447, do questions 33 – 36 (Note: for Q33, Ksp of $PbCl_2 = 1.7 \times 10^{-5}$ from page 437, answer should be 9.3×10^{-8}) 4. Begin Review 7: Solubility Equilibria (on Internet)