**Study Guide for Unit 3 Test**

**Daigneault Chemistry**

1. Organize your materials
   1. Your reading journal notes 8.1, 8.2, 8.3
   2. Your class notes, please check your class notes against my notes to be certain they are complete.
   3. Solvation, how ions dissolve in water classwork – Day 1and 2
   4. Precipitation Reaction Demo classwork -Day 3
   5. Precipitation Pre Lab, Lab and Post Lab Day 4
   6. Writing and Balancing Equations, Ionic Equations and Net Ionic Equations classwork - Day 5
   7. Precipitation Reactions and Net Ionic Equations homework Day 5
   8. Potable Water and Quest for a Clean Drink homework – Day 6 and 7
   9. 8.2 Team Learning Worksheet – Acid/ Base classwork – Day8
   10. RedOx homework – Day 9
   11. Classifying Reactions homework – Day 10
   12. Classifying Reactions Worksheet #2 homework – Day 11
   13. Reaction Types Lab – Day 12
   14. U3 - Review Activity Day 13 and 14
2. Read over all materials listed above and be sure they are complete, corrected with the keys and you understand each of them.
3. Reread the Chapter – **Make your own Study Guide** in your reading journal.
   1. If you did not earn a 85% or better on the last test you must hand write your study guide with the following 3 sections:
      1. **Vocabulary section (optional)**  
         Include all bold vocabulary from each section as well as any words you do not understand and know. See attached chapter review for a list of bold words.
      2. **Outline notes section**  
         From each section we covered write bulleted notes. Use the chapter review at the end of the chapter on pg. 270 for guidelines and ideas of what to include.  
         Include at least one example with the answer from the examples boxes in the section as you take notes.
      3. **Example section**  
         - Redo at least 2 examples from each of the in class and homework problems assigned from the list above. You may reprint the worksheets and attach them to your study guide.  
         - Complete 1-3 of the section review questions at the end of each section.
4. Mark areas that you need to review and then GO BACK in the textbook and study each of these sections.
5. On the test you will be allowed:
   1. Your periodic table with appropriate marks
   2. Solubility Rules
6. Take the online chapter quizzes from the textbook site for Ch 8. Take Standardized test prep for Ch 8 pg 277.
7. Review your study guide and reading journal, get some sleep and a good breakfast!

**Review for Unit 3 Test - Ch 8**

**Daigneault Chemistry  
Station 1 – GO OVER ALL WORK FROM THE UNIT**

1. Go through all of the work listed on the study guide.
   1. Fill in any portions you did not get to or finish.
   2. Check all answers on the keys.
   3. Mark with a star questions you find helpful or would like to go back to and use for review.

**Station 2 – GO OVER YOUR STUDY GUIDE/ REVISE**

1. Go over your study guide with the members of your group.
   1. Did you include all of the following sections:
      1. **Vocabulary section**  
         Include all bold vocabulary from each section that you need to review as well as any words you do not understand from the unit.   
         See the end of the chapter review pages for a word bank.
      2. **Outline notes section**  
         From each section we covered write bulleted notes.   
         Use the end of the chapter review as guidelines for ideas on what to include.
      3. **Example section**  
         Redo at least 2 examples from each of the in class and homework problems assigned. Place them at the end of your study guide or you may reprint the worksheets and attach them to your study guide.  
           
         Complete 1-3 of the blue section review questions at the end of the chapter for the sections you still need to review and check the answers.
   2. Make additions and or edits to your study guide.
   3. Mark all areas you would like to go back and study for your test.

**Station 3 –Precipitation and Acid Base Reactions**

1. Randomly pick one cation and one anion from the pile.  
   Write the formula \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Is this compound soluble? \_\_\_\_\_\_\_\_\_\_\_\_
2. Repeat step #1.  
   Write the formula \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Is this compound soluble? \_\_\_\_\_\_\_\_\_\_\_\_
3. Choose two soluble compounds from the pile that will react to form a precipitate.  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   soluble compound 1 soluble compound 2
4. Complete the following for the reaction above and draw in the boxes below.
   1. Write out the balanced equation.  
        
      ­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Write out the ionic equation.  
        
      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Write out the net ionic equation.  
        
      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. What are the spectator ions from the reaction?  
        
      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5. Complete the following and draw in the boxes for the reaction below.  
Sulfuric acid reacts with potassium hydroxide to form salt water.

* 1. Write out the balanced equation.  
       
     ­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. Write out the ionic equation.  
       
     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. Write out the net ionic equation.  
       
     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. What are the spectator ions from the reaction?  
       
     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  5. + + 🡪

**Station 4 – Correct my mistakes**

One of the best ways to learn is to correct someone else’s mistakes. Correct my mistakes below.

1. Complete the products and identifying reaction types.

* 1. \_\_\_\_\_\_\_\_: \_\_\_\_ LiCl (*s*) →
  2. : \_\_\_\_ CuCO3 (*aq*) + \_\_\_\_ Al (*s*) →
  3. : \_\_\_\_ Mg (*s*) + \_\_\_\_ O2 (*g*) →
  4. : \_\_\_\_ C2H5OH (*l*) + \_\_\_\_ O2 (*g*) →
  5. : \_\_\_\_ HF (*aq*) + \_\_\_\_ Ca(OH)2 (*aq*) →

Bonus: Who is the celebrity chemical in Ch 8? Why?

What are 3 things you learned from the Potable Water and Quest for a Clean Drink articles that you read for homework.

**Station 5 – RedOx – Who? – How?– What?**

1. In the following redox reaction identify: **Who** is involved in the redox, **What** is the number of electrons that are transferred and **How** are the electrons are transferred using half reactions.

\_\_\_\_\_ Zn (s) + \_\_\_\_\_ HNO3 (aq) → \_\_\_\_\_ H2 (g) + \_\_\_\_\_ Zn(NO3)2 (aq)

**WHO**

Element reduced: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Element oxidized: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Oxidizing agent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Reducing agent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**HOW**

Reduction half-reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Oxidation half-reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Spectator Ions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**WHAT**

What is the total number of electrons transferred? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Draw out the RedOx reaction below:

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What is the driving force of this reaction? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Are precipitation reactions generally oxidation–reduction reactions? Why or why not?

3. Single-displacement reactions are also RedOx reactions.   
Why must this be true? Explain using an example, explanation and drawing.

**Station 6 – Putting it all together**

The following examples are from your reaction types worksheets. Complete the extensions for each example.

Write letter code for the type of reaction in the first space, then complete and balance the chemical equation:

type

1. : \_\_\_\_ Li (*s*) + \_\_\_\_ MgBr2 (*aq*) →

Write out the net ionic equation.  
  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What are the spectator ions from the reaction?  
  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

type

2. : aluminum chloride reacts with silver nitrate → \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write out the balanced equation.  
  
­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Draw the reaction below:

* 1. + + 🡪

type

3. : \_\_\_\_ Na (*s*) + \_\_\_\_ O2 (*g*) →

Element reduced: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Element oxidized: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Oxidizing agent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Reducing agent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reduction half-reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Oxidation half-reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Draw out the RedOx reaction below:

+ 🡪

type

4. : acetic acid and potassium hydroxide →

Draw out the Acid/ Base reaction below:

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