Chemistry I – Final Exam Review – Mrs. Bauck
Optional 40-point assignment and help card due _____

The exam will consist of two parts. The district EOC has 54 multiple choice questions (50% of total score), and Bauck's exam has 66 multiple choice questions (50% of total score). This review will help you with both portions.

The final exam total score is weighted 25% of the overall semester grade. Study for it. Reread the book and notes, redo practice problems, watch tutorial videos—whatever helps you, do it.

District EOC study guide: http://kwanga.net/chemnotes/CHEM-EOC-1718.pdf

General information about district EOC: http://kwanga.net/chemnotes/EOC%20info.pdf

This exam review was written directly from Bauck's exam. The exam review will count as a 40/40 optional assignment grade if it is completed correctly and shown to the teacher on or before the due date.

"Help card" for Bauck's exam (NOT allowed on the EOC portion): You may use ONE 3" x 5" or 4" x 6" index card with information written or typed on both sides. The actual card must be submitted for approval the day the exam review is due. It will be checked for size and content. No electronic copies of cards will be accepted. No sharing of cards during the exam is permitted. You may write any information you want on the card EXCEPT THE 20 POLYATOMIC IONS AND SIX COMMON ACIDS. You will have a laminated periodic table, but I will not furnish any equations or constants for you, so doing a help card is important. NO LATE HELP CARDS WILL BE ACCEPTED.

You will need #2 pencils and erasers, a calculator, as well as something to do if you finish early. No electronic devices are allowed as long as exams are being taken in the room.

Ch. 9:	Chemical Reactions	10 questions	
Ch. 10:	Moles	10 questions (math)	
Ch. 11:	Stoichiometry	10 questions (math)	
Ch. 12:	Kinetic Theory and States of Matter	5 questions (math)	
Ch. 13:	Gas Laws	10 questions (math)	
Ch. 14:	Water, Mixtures and Solutions	6 questions	
Ch. 18:	Acids & Bases, Neutralization	6 questions	
Ch. 18:	Neutralization	9 questions	66 questions

Suggestions for the help card: (you may cut this section out and glue to a card)

STANDARD TEMPERATURE: 0° C or 273 K
STANDARD PRESSURE: 1.00 atm, 760. mm Hg, 760. torr , 101.3 kPa, 14.7 psi
K = °C + 273
% yield = (ACTUAL / THEORETICAL) x 100
$P_{TOTAL} = P_1 + P_2 + P_3 \ldots$
R = 0.08206 L atm/mol K
M = mol / L
PV = nRT $\quad \frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$
pH + pOH = 14

CHAPTER 9: CHEMICAL REACTIONS

1. define: Δ, (s), (l), (g), (aq)
2. balancing equations: (give examples…)
   a. balance
   b. predict products and balance
   c. write entire equation and balance
3. catalyst
4. coefficients vs. subscripts
5. Law of Conservation of Matter
6. products
7. reactants
8. reaction types: (give examples)
   a. combination/synthesis
   b. decomposition
   c. single replacement
   d. double replacement
   e. combustion
9. rxn.
10. skeleton equation
11. spectator ions

CHAPTER 10: MOLES

12. amu, GFM, GMM
13. density
14. molar mass
15. molar volume of a gas
16. STP
17. types of representative particles (4)
18. **MATH PROBLEMS (non-stoich)**
    Give examples:
    a. g → mol **mol → g**
    b. mol → r.p. **r.p. → mol**
    c. g → r.p. **r.p. → g**
    d. mol → L **L → mol**
    e. empirical formula
    f. molecular formula
    g. percent composition

CHAPTER 11: STOICHIOMETRY

19. Interpreting equations - describe
20. Mole ratios
21. **MATH PROBLEMS**
    Give examples:
    a. mol A → mol B
    b. g A → r.p. B **r.p. A → g B**
    c. g A → g B
    d. L A → L B
    e. g A → L B **L A → g B**
    f. Percent yield

CHAPTER 12: KINETIC THEORY and STATES OF MATTER

22. absolute zero
23. amorphous
24. atm
25. barometers
26. crystals
27. condensation
28. equilibrium
29. Kinetic Theory of Gases
30. liquid
31. gas
32. kelvin
33. phase changes
34. plasma
35. pressure
36. solid
37. sublimation
38. supercooled liquid
39. **MATH PROBLEMS**
    Give examples:
    a. pressure conversion
    b. temp. conversion

CHAPTER 13: GAS LAWS

40. Define: α, P, V, T, n, R
41. absolute scale
42. ideal gas
43. pressure
44. real gas
45. temperature
46. volume
47. **MATH PROBLEMS**
    Give examples:
    a. Charles
    b. Boyle
    c. Gay-Lussac
    d. Combined
    e. Ideal
    f. Partial pressure
    g. Mol → g
    h. Mol → r.p.
    i. g → L

CHAPTER 14: MIXTURES and SOLUTIONS

48. colloid/colloidal suspension
49. concentrated
50. dilute
51. electrolytes
52. "Like Dissolves Like"
53. **MATH PROBLEMS**
    Give examples:
    a. **molarity (solve for M)**
    b. **molarity (solve for moles)**
    c. **molarity (solve for grams)**
54. saturated
55. solute
56. solution
57. solvent
58. specific heat
59. supersaturated
60. suspension
61. unsaturated

CHAPTER 18: ACIDS and BASES

62. examples of common acids
63. examples of common bases
64. hydronium ion
65. neutral pH
66. pH
67. pH range of acids
68. pH range of bases
69. **MATH PROBLEMS**
    Give examples:
    pH, pOH, $[H^+]$, $[OH^-]$

CHAPTER 18: NEUTRALIZATION

70. balancing neutralization equations
    Give examples:
    a. balance
    b. predict products and balance
    c. write entire equation and balance
71. double displacement rxns.
72. identify a salt by its formula
73. net ionic equation for neutralization rxns.
