

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} = P₁ + P₂ + P₃...

R = 0.08206 L atm/mol K

M = mol / L

PV = nRT

pH + pOH = 14

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$$

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
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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. $g \rightarrow \text{mol}$ $\text{mol} \rightarrow g$
 - b. $\text{mol} \rightarrow \text{r.p.}$ $\text{r.p.} \rightarrow \text{mol}$
 - c. $g \rightarrow \text{r.p.}$ $\text{r.p.} \rightarrow g$
 - d. $\text{mol} \rightarrow L$ $L \rightarrow \text{mol}$
 - e. empirical formula
 - f. molecular formula
 - g. percent composition
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CHAPTER 11: STOICHIOMETRY

19. Interpreting equations - describe
 20. Mole ratios
 21. **MATH PROBLEMS**
Give examples:
 - a. $\text{mol A} \rightarrow \text{mol B}$
 - b. $g A \rightarrow \text{r.p. B}$ $\text{r.p. A} \rightarrow g B$
 - c. $g A \rightarrow g B$
 - d. $L A \rightarrow L B$
 - e. $g A \rightarrow L B$ $L A \rightarrow g B$
 - f. Percent yield
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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
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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. $\text{Mol} \rightarrow g$
 - h. $\text{Mol} \rightarrow \text{r.p.}$
 - i. $g \rightarrow L$
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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.