The ABC's of Chemistry Project

This Project will count as 2 Test/Project grades each 6 weeks!

You have been given a list of terms that are essential to your understanding and success in chemistry. To prepare you for the EOC exam, you are required to make an index card for each of the terms provided. On each index card you should have the following:

- The term and explanation of the term in your own words**. YOU ARE NOT ALLOWED TO COPY THE BOOK DEFINITION FOR YOUR EXPLANATION!!!** If you copy you will receive **NO** credit for this. Write as much as you know about each term in the explanation.
- There must be an example for each term. If a term involves a calculation, you must include an example problem not found in the book. You must write the problem and show all your work.
- Drawings and diagrams should be included where applicable.
- If your writing is illegible, no credit will be given. You may not type this project and all parts must be hand written.
- You must work in order and put the number of the term that corresponds to the list provided at the top left of the card. You may work on both sides of the card and I would suggest the larger side, lineless cards for this project.
- If a term needs an additional card(s) please label them with their number then the letters starting with "a". (Example: 1a, 1b, 1c…)

Grading

Each term will be graded as follows:

- 1 point will be awarded for each term and definition.
- 1 point will be awarded for each example/problem.
- 1 point will be awarded for each applicable graph/diagram.
- 1 point will be awarded for being neat.
- Bonus points may be rewarded for creativity, color, etc.

Each six weeks will have a different total amount of points and the points earned divided by the point available will be your score.

You must keep your note cards throughout the year, although each turn in date will only require the terms asked for on that date.

An additional 2 test grades will be rewarded for turning in ALL cards on the day of your EOC!!!

Key to requirements

Italics=Example **Bold=Problem** Underline=diagram/drawing

First Six Weeks Due: March 5th

1. MSDS	*2. Element*	*3. Compound*	*4. Heterogeneous*	*5. Homogeneous*
6. Signs of a chemical reaction	*7. Atom*	*8. Democritus*	*9. John Dalton*	*10. J.J. Thompson*
11. Robert A. Millikan	*12. Eugen Goldstein*	*13. James Chadwick*	*14. Ernest Rutherford*	*15. Nucleus*
16. Protons	*17. Electrons*	*18. Neutrons*	*19. Atomic Number*	*20. Mass Number*
21. Isotopes	*22. Amu*	*23. Niels Bohr*	*24. The Bohr Model*	***25. Deterimine the number of p^+, n^0 and e^-***
26. Electron Cloud Model	*27. Electron configurations*	*28. Electromagnetic Spectrum*	**29. Density**	*30. Group*
31. Period	*32. Valence Electrons*	*33. Charge*	*34. Reactivity of Metals and Nonmetals*	*35. Representative Elements (A)*
36. Alkali Metals	*37. Alkaline Earth Metals*	*38. Halogens*	*39. Noble Gases*	*40. Transition Metals (B)*
41. Noble Gas Configurations	*42. s,p,d and f blocks*	*43. Ionization energy trend*	*44. Electronegativity trend*	*45. Atomic Size*
46. Ionic Size	*47. Bonding and electronegativity (ionic, polar covalent and nonpolar covalent.*	*48. Binary Compound (metal/nonmetal)*	*49. Ternary Compound (polyatomic ion)*	*50. Use of Roman Numerals*
51. Binary Compounds (two nonmetals)	*52. Four common acids*	*53. Stable arrangements*	*54. Cation*	*55. Anion*
56. Properties of Ionic compounds	*57. Properties of covalent compounds*	*58. Properties of metallic compounds*	*59. Diatomic Gases*	*60. Lewis Structure*
61. Bond strength/energy	*62. VSEPR Theory*	*63. Polarity*	*64. Hydrogen bonding*	*65. London Dispersion Forces*

66. Van der Waals forces	*67. Mole Road Map*	**68. Mass to moles**	**69. Particles to moles**	**70. Volume to moles**
71. Molecular weight	*72. STP*	**73. Percent composition**	**74. Empirical formula**	**75. Molecular formula**

Second Six Weeks **Due April 27**

1. Balanced Equation	**2. Synthesis Reaction**	**3. Decomposition Reaction**	**4. Single Replacement Reaction**	**5. Double Replacement Reaction**
6. Combustion reaction.	*7. Activity Series of Metals*	*8. Activity Series of Nonmetals*	*9. Prediction precipitates*	*10. Testing for oxygen gas*
11. Testing for hydrogen gas	*12. Testing for carbon dioxide gas*	**13. Net Ionic Equations**	*14. Law of Conservation of Mass*	**15. Mole to Mole conversion**
16. Stoic. mass to mass	**17. Stoic. mass to liters**	**18. Stoic. liters to liters**	**19. Stoic. Liters to mass**	*20. Kinetic Theory of gasses*
21. Absolute Zero	*22. Phase Diagram for water*	*23. Six Phase changes*	**24. Boyle's Law**	**25. Charles' Law**
26. Gay-Lussac's Law	**27. Combined Gas Law**	**28. Ideal Gas Law**	*29. Identifying Substances Based on Properties*	**30. Dalton's Law**
31. Avogadro's Law	*32. Vapor Pressure*	*33. Characteristics of an Ideal Gas*	*34. Solvent*	*35. Solute*
36. Ionic Solvation	*37. Covalent Solvation*	*38. Electroltye*	*39. Non-electrolyte*	*40. Aqueous solution*
41. Solubility Charts	*42. Factors affecting solubility of a solid*	*43. Factors affecting solubility of a gas*	**44. Henry's Law**	**45. Molarity**
46. Dilution	*47. Colligative Properties*			

Third Six Weeks **Due May 22nd**

1. Properties of an Acid	*2. Properties of a Base*	*3. Arrhenius Acids and Bases*	*4. Br∅nsted-Lowry Acids and Bases*	*5. Concentration vs. Strength*
6. pH	*7. pOH*	*8. $[H^+]$*	*9. $[OH^-]$*	*10. hydrogen ion*
11. hydronium ion	*12. hydroxide ion*	**13. pH problem**	*14. Indicators (3 required)*	**15. Titration calculation**
16. Buffer	*17. Reduction*	*18. Oxidation*	*19. REDOX Reaction*	*20. Half Reactions*
21. Oxidation Half Reaction	*22. Reduction Half Reaction*	*23. Electrochemistry applications*	**24. Identifying what is oxidized.**	**25. Identifying what is reduced.**
26. Heat vs. Temperature	*27. Heating & Cooling Curves*	*28. Calorimetry*	*29. Exothermic reaction*	*30. Endothermic reaction*
31. Reaction Pathway Diagrams (2 types)	*32. Activation Energy*	*33. Enthalpy*	*34. Entropy*	**35. Heat calculations (use all 3 equations)**
36. Specific Heat	*37. Heat of vaporization*	*38. Heat of fusion*	*39. Catalyst*	*40. Law of Conservation of Energy*
41. Factors affecting entropy	**42. Energy Conservation Problem**	*43. Factors affecting reaction rates (5)*	*44. Characteristics of Alpha Particles*	*45. Characteristics of Beta Particles*
46. Characteristics of Gamma Rays	*47. Decay equations (for all 3 types of radiation)*	*48. Half life*	**49. Half life problem**	*50. Fission*
51. Fusion	*52. Uses of Nuclear energy*			

On the day of YOUR final exam you must turn in ALL of the cards for each of the 3 six weeks. Keep up with them and make sure each time you rubber band your cards and it included a face card with your name, class and period.