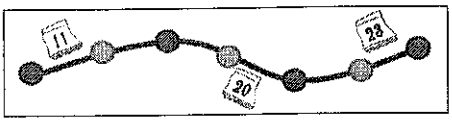
1st Grading Period Honors Project

DUE DATE: _____



Choose ONE of the following options:

OPTION 1: THE ATOM TIMELINE- A Biographical History PRESENTATION

Create a PowerPoint or Prezi (www.prezi.com) Presentation which describes at least 8 scientists' contributions to the **discovery of: the atom, the parts of the atom, and/or nuclear decay**. You should write a **bulleted** list of facts about each person's contribution, include at least 10 pictures or diagrams, and create a **timeline** (REQUIRED!) with approximate years of the scientists' work (you may not find exact years, but can guess from their lifespan). Possible scientists to include: George Zweig, Otto Hahn, Lisa Meitner, Erwin Shroedinger, Ernest Rutherford, Neils Bohr, JJ Thomson, Robert Millikan, Albert Einstein, Max Planck, Marie Curie, Henri Becquerel, John Dalton, Democritus. Your Presentation can be on USB drive (will be returned the same day), shared on Google Drive (give me permission to view) or emailed to BRENTBARKER@ccs.k12.nc.us.

OPTION 2: The ATOM TIMELINE- A Biographical History POSTER

Create a large **colorful poster** which describes at least 8 scientists' contributions to the discovery of the atom, the parts of the atom, and/or nuclear decay. The poster must be neat and feature a timeline with the approximate years of their work (you may not find exact years, but can guess from their lifespan). The poster should include at least 5 pictures/diagrams as well.

To accompany the poster, **include a typed paper** which has a paragraph about each person's contribution. Possible scientists to include: George Zweig, Otto Hahn, Lisa Meitner, Erwin Shroedinger, Ernest Rutherford, Neils Bohr, JJ Thomson, Robert Millikan, Albert Einstein, Max Planck, Marie Curie, Henri Becquerel, John Dalton, Democritus.

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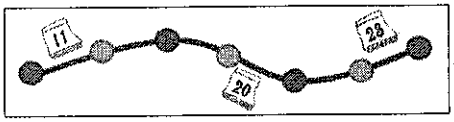

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HONORS CHEMISTRY 2nD QTR Project

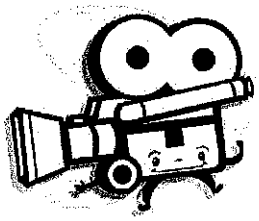
Due: _____

1. FORENSIC SCIENCE MYSTERY

Create a 500-700 word original, fictional story detailing the work of a forensic chemist. Your story should be a "who-dun-it?" style mystery, with crime scene descriptions, types of evidence collected, suspect(s) description, and most importantly: details of the types of equipment, techniques, lab work, tools used by a forensic chemist. Be creative, but your grade will be determined by use of correct factual information regarding forensics chemistry.

2. ELEMENT MATCHMAKER VIDEO

You will create 2 matchmaking videos as though you are an element joining a matchmaking service like eHarmony. One video should be for a metal and one for a nonmetal. In the video, you should play the role of a single element who is looking for a compound. Describe yourself in great detail. In describing "yourself," descriptions should include any facts about you (the element) such as: electronegativity, color, reactivity, density, common uses, number of valence electrons. Your ideal mate will be elements you can bond with. Also include what you are looking for in a "mate." Describe the type of bond(s) you like to form, give a couple of examples of compounds (names & formulas) you like to make, and what uses the newly formed compound(s) will be. You might include illustrations, or graphics, subtitles with facts and/or formulas & names, costume, etc. Videos should be submitted on CDRom or Flash Drive in a standard video format (like avi, quicktime, mpeg, xvid) that can be viewed on a PC, or as a DVD that can be played on a standard dvd player.



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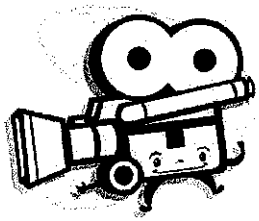
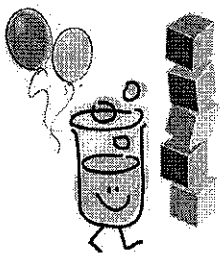
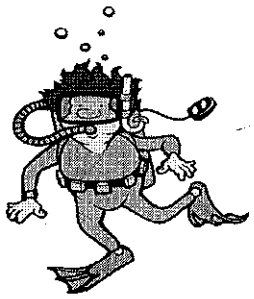


3rd Quarter CHEMISTRY Project



OPTION 1: Gases Poem/Song: Write a creative poem or song that describes gases, gas properties, the gas laws, scientists who studied gases, etc. You **MUST PERFORM** your piece in class to receive full credit. Although there is no minimum length, your grade will reflect how well you use the many facts, laws, and details about gases in a creative manner.



OPTION 2: SCUBA DIVING RESEARCH: Write a 600-800 word **HAND-WRITTEN** paper describing the history and science behind SCUBA. Include details about gases used, pressure, medical issues, and a short section on SCUBA diving's history. List the resource(s) you used for the information.

3rd Quarter CHEMISTRY Project

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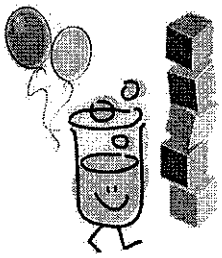

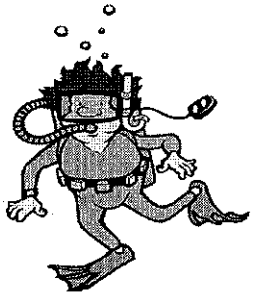

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DUE: _____

YEAR IN REVIEW MINIBOOK ~ HONORS

You will create a Question/Answer Minibook that features 4-6 items for each of the 15 major topics we've covered this semester. All items must have the answer on the reverse side or at the end of the booklet. Your booklet might be half pages of notebook or typing paper, or you might use large index cards.

For "non-math" topics (like Topic #4), the 4 items can be true/false, fill in the blank, or short answer questions. For topics that have the math icon, add 1 aditional item that requires math. Your answer must also include ALL Work shown. For topics with the diagram icon, include 1 additional item that requires interpreting a diagram, or the answer itself is a drawing, chart, graph. The fewest questions per topic is 4, and the most you will have is 6.

In addition to using your notes, you can research topics online as needed, but stick to creating questions based on information we covered in class for each topic.

ADD A MATH PROBLEM 

ADD A **DIAGRAM** PROBLEM 

TOPIC #	TOPIC DESCRIPTION	NOTES CHAPTER(S)	Add a Problem Icons
1	Math in chemistry, Density, Sigdigs, Conversions	1 & 2	
2	The atom, Atomic Number, Ions, Nuclear Equations	3	
3	History of the discover of the atom, waves, electron configs,	4	
4	Periodic Table Families, Periodic Trends	5	
5	Naming Ionic & Covalent Compounds, Writing formulas, dot diagrams	7	
6	Molecular Shapes	8	
7	Types of Reactions, Balancing Equations	9	
8	Basic Stoichiometry, empirical formulas, molecular formulas, percent composition	10	
9	Stoichiometry, Limiting Reactants, Percent Yield	11	
10	Heat Stoichiometry, Enthalpy diagrams, Heating Curve	12	
11	Gas Properties, Gas Laws, Graphing Charles & Boyles law, Manometers	13	
12	Solutions, Molarity, Molality, LeChatelier's, Equilibrium, Freezing Pt Depression	15 & 16	
13	Acids, Bases, pH , pOH, Indicators, Kw, Ka, Kb, pH scale, Titrations	18 & 19	
14	Oxidation & reduction, identifying oxidizing & reducing agents, electrochemistry	20 & 21	
15	Kinetics, Use of catalysts, Exo & endo diagrams, Spontaneous Rxns, Entropy	22/23	