

Course Name: Chemistry **Course:** 2022 S **Points** 5
Teacher Name: Doug Wolfe **School:** Quincy High School

Introduction:

Welcome to chemistry class! In this class, we will be learning how to use core principles of chemistry in order to tackle some real-life issues. Additionally, this course is designed to prepare and motivate students to continue studying science beyond high school.

Dear Students:

This is my second year teaching chemistry at Quincy High. I had a great first year and I look forward another year here. I recently graduated from Harvard with a Masters in Education. Before Quincy High, I have taught general science in Nepal as well as Chemistry and Biology at Boston Arts Academy and Cambridge Rindge and Latin.

I believe that all students want to learn and are capable of learning science. After all, science is fun and wicked cool! I am here to provide the support and the help you need to learn. If you need any help, just ask. You may makeup work and get extra help on Wednesday after school. Please, ask me if you need to meet after school on any other day besides Wednesday because I will usually be available. In addition, if you need to get in touch with me at any other time, you can email me at dougwolfejr@rocketmail.com.

Materials:

- ◆ **Journal** – This is a composition book just for science. In your journal, you will take notes and record data and observations in lab. Journals will be collected in a lottery system. Will you win?
- ◆ **Binder** – This is a three-ring binder. In your binder, you will keep your homework and all the handouts that I return. Do not lose or throw out any of your work because you will need it for the portfolio during the 4th term. In addition, most quizzes will be open notes, so that you learn to use your previous work. You should organize your binder chronologically, so that you can find material later.
- ◆ **Calculator** – A simple scientific calculator is all that I require. You do not need anything fancy. [Since cell phones are not allowed in class, they do not count as calculators; therefore, do **not** bring them.]
- ◆ **Writing Utensil** – You must use a pen for your journal, but you may use either a pen or pencil for other work.
- ◆ **Textbook** – Myers, T., Oldham, K. B. & Tocci, S. (2004). Chemistry. New York: Holt, Rinehart and Winston, Inc.

Methods:

- I assume that all people, including myself, will respect others, their work, their ideas and their cultures.
- Everyone, including myself, will work hard and do their best.
- Be positive. Do not forgot, science is fun and we can all learn!
- All Quincy High School policies apply to class.
- Cell phones are not allowed in class, so don't bring them to class. If your cell phone rings in class, I get to answer it and I will keep it until the end of the day. If my cell phone rings in class, you get to answer it.

Assessment:

Your performance in Chemistry will be assessed based on formal quizzes and tests as well as informal work done in class. Your grades will be based on homework, classwork, labs, projects, journals, binders, tests and quizzes. Classwork will include lab work, note taking, activity sheets, and short presentations. Projects might include essays, research papers, posters and other multimedia presentations. Attendance will also be a significant factor in determining your grade. Additionally, you will be required to complete a portfolio during the 3rd quarter. This will be an important project worth 25% of your grade. Make sure to save all your work for the portfolio. Journals and binders are an important factor in keeping this work organized.

Attendance will also be a significant factor in determining your grade. If you miss school, you will fall behind. If you miss school for more than two days, please have a parent or guardian pick up your missed work.

Your grade for any given assignment as: points earned/points possible

Grading Policy:

Homework/Classwork	30%
Labs/Projects	25%
Journals/Binders	20%
Tests/Quizzes	25%

During 2nd and 4th term, these grades will be averaged with the exam grade (20%) as well.

Lab Reports

Lab Reports will be completed in your journal. The report will be due two days after the lab is completed. If you miss a lab, you must make it up after school on Wednesday.

The Lottery:

The journal lottery is open to persons in the state or Massachusetts under the age of 18. The journal lottery will happen at least once a week and at most five times a week.

While assignments and homework will be checked when they are due, your journal will be checked less frequently. They will be checked using a lottery system. All your names will be placed in a hat, and one student to all the students' names could be drawn. The people selected will turn in their science journal to be graded. The journal lottery will happen in rounds, that is, everybody's name will be selected once before anyone is selected a second time.

You never know when your name might be picked, so it is very important to keep your journal up-to-date!

Syllabus:

This is an estimate of the material to be covered in this class. The needs of the individual students, weather conditions and other unforeseen circumstances may alter the amount of the material covered.

1st Quarter:

Introduction to Chemistry

- a) What will I learn in Chemistry
- b) Learning to work like scientists
- c) Scientific Method

Matter, Energy and Change

- a) Density
- b) Classification of matter
- c) Phase of matter
- d) Chemical vs. Physical change
- e) SI Units of Measurement
- f) Elements

2nd Quarter:

Atom and the Periodic Table

- a) The Structure of the Atom
- b) Periodic trends
- c) Mass of atoms
- d) Counting atoms - the mole.

Chemical Bonding

- a) How do atoms form bonds?
- b) Ionic Bonding and Ionic Compounds
- c) How do atoms share electrons?
- d) Covalent Bonding and Molecular Compounds
- e) Naming of Compounds and writing formulas.
- f) How do bonds and properties relate?

3rd Quarter:

Chemical Formulas and Equations.

- a) Using Chemical Formulas
- b) Oxidation Numbers
- c) Types of Chemical Reactions
- d) Stoichiometry

Nuclear Reactions and Radioactivity.

- a) The composition and Structure of the Nucleus
- b) Phenomenon and Applications of Radioactivity

Physical Characteristics of Gases.

- a) Kinetic Theory of Gases
- b) Qualitative and Quantitative Description of Gases
- c) Boyle's, Charles', Gay-Lussac's and the Combined Gas Laws

4th Quarter:

Gases, Liquids, Solids and Solutions

- a) Volume-Mass Relationships of Gases
- b) Ideal Gas Law
- c) Liquid
- d) Solid
- e) Changes of State
- f) Water
- g) Types of Mixtures
- h) Solution Process
- i) Concentration – Molality

Nuclear Chemistry

- a) History
- b) Nuclear Reactions
- c) Fusion and Fission

Acids and Bases

- a) Acids
- b) Bases
- c) Acid-Base Reactions
- d) Concentration and pH
- e) Titration

Reaction Energy and Kinetics

- a) Thermochemistry
- b) Reaction process and rate

Reminder: Science is fun! If you would like to tell me how cool science is, email me at dougwolfejr@rocketmail.com. I will certainly email you to let you know how cool science is too.

Please return to Mr. Wolfe by September 12, 2005 along with the Lab Contract. I have read and understand the guidelines and procedures for Chemistry class and have shared them with my parent/guardian.

Student Name: _____ Period: _____

Student's signature: _____

Parent's signature: _____

Thank you! I look forward to working with you and your child this year.