



Course Title: chemistry

Instructor: Ms. Keenan

Instructor Availability: Tuesday and Thursday, 3:15pm-4:15pm

Instructor Contact: ckeenan@gomperscharter.org/203-843-3831/room 22

Course Description:

In this introductory chemistry course, students will investigate the composition of matter and the various changes it can undergo. We will begin by reviewing basic investigative and mathematical principles. Then, we will examine matter on the microscale level, studying the structure of atoms and the periodic table of the elements. We will move up a level in scale by studying chemical bonding, which occurs when atoms join together to form molecules. We will learn to name these molecules and characterize the different reactions they undergo in both a qualitative and quantitative fashion. Next, we will look at matter from a big-picture perspective: the energy changes that accompany reactions, the rates at which reactions occur, and the equilibrium states achieved by these processes. Finally, we will finish the course with a unit on nuclear chemistry. Labs will be interwoven throughout the duration of the course.

GPA Grading Guidelines:

Category	Assignments	Percentage of final grade
Classwork	• Lab reports • Group work • Exit tickets • Notebook and binder checks	30%
Demonstrations of Learning	• Weekly quizzes • Unit tests	35%
Homework/Independent Learning	• Weekly homework packets	10%
Quarter Finals	• Cumulative exam based on all units covered throughout the quarter	25%



Course Materials:

- **Notebook:** Students will be provided with a notebook for this class and are expected to maintain detailed notes. Notebooks will be checked and graded at the end of each unit.
- **Binder:** Students should have a binder organized in the GPA format with a section devoted to chemistry. Students are expected to organize chemistry handouts according to the format explained in class. Binders will be checked and graded at the end of each unit.
- **Two different colored writing utensils:** Students will frequently correct their own work and their peers' work. Therefore, they need two different colored writing utensils (one for solving problems and one for correcting them). Students should complete their work in either pencil, black pen, or blue pen. They may choose any color for correcting work.
- **Scientific calculator:** Students must have access to a scientific calculator, which can perform operations with exponents, logarithms, and parentheses (a graphing calculator is not required). Scientific calculators are available at stores like Wal-Mart and Target and typically cost between \$10 and \$15. Students will be provided with a scientific calculator to use during class time. At home, they must either have their own scientific calculator, internet access so that they can use one on their chromebook, or access to a phone with a scientific calculator app. For more detailed questions about calculators or help getting access to one, please see Ms. Keenan.
- **Internet access:** Students will need internet access to complete their weekend homework assignment, which is to review the weekly vocabulary set with quizlet (an online flashcard program). It is strongly recommended that students set aside a regular time each Saturday or Sunday to visit the nearest library, use the internet, and spend at least one hour studying.
- **Textbook readings:** The majority of the course readings come from the textbook *Modern Chemistry* (Holt, 2013). Students will receive printed copies of each reading, and they will be expected to highlight and annotate them according to the format discussed in class.
- **Chromebooks:** Students will bring their charged chromebooks to class every day. They will use them to complete daily exit tickets and engage in computer-based simulations.
- **Google Classroom:** All course resources will be posted on Google Classroom. Students will receive a code to join our class.

Course Structure:

This course facilitates learning through lectures, note-taking, labs, group problem-solving, projects, scientific texts, and digital resources (such as computer simulations and videos). Students will develop strong textbook reading and note-taking skills. They will also frequently engage in group work and hands-on activities.

**Course of Study:**

Unit	Topic	Duration	Description	Major assessments
1	Measurements and Calculations	3 weeks	Students will be able to work safely in the laboratory, design experiments, collect and analyze data, and perform basic calculations essential to the study of chemistry.	• Density lab report • Unit test
2	Atoms	3 weeks	Students will be able to explain the history of atomic theory, describe the modern model of the atom, and write electron configurations for a given element.	• Flame test reflection • Unit test
3	The Periodic Table	2 weeks	Students will be able to access and apply the information contained in the periodic table, including atomic number, atomic mass, and group properties. They will be able to compare the atomic radii, electronegativity, and ionization energy of any given elements based on their positions on the periodic table.	• Element cube research project • Periodic trend graphing assignment • Unit test
4	Bonding	2 weeks	Students will be able to compare and contrast ionic, covalent, and metallic bonding in terms of electron behavior and the properties of the bonded material. They will also analyze the effect of different types of intermolecular forces on the properties of a substance.	• Bonding inquiry lab • VSEPR modeling project • Unit test
5	Nomenclature	2 weeks	Students will be able to write both names and formulas for ionic compounds, covalent compounds, and acids.	• Mineral research project • Unit test
6	Chemical Reactions	2 weeks	Students will be able to interpret, classify, and balance	• “Reaction in a bag” reflection



			chemical equations.	• Unit test
7	Stoichiometry	3 weeks	Students will be able to use mathematics to make predictions about the outcomes of chemical reactions.	• S'mores stoichiometry analysis • Balloon lab report • Unit test
8	Gases	2 weeks	Students will be able to analyze the relationship between the volume, pressure, and temperature of a gas using mathematics.	• Gas laws lab report • Unit test
9	Solutions	2 weeks	Students will be able to explain the basic properties of an aqueous solution and calculate concentration in terms of molarity, molality, and mass percent.	• Visual colorimetry lab report • Precipitate lab report • Ice cream lab report • Unit test
10	Acids and Bases	2 weeks	Students will be able to name the properties of acids and bases, calculate hydrogen ion and hydroxide ion concentration from pH values, and write chemical equations to describe neutralization reactions.	• Stomach acid lab report • Unit test
11	Thermochemistry	2 weeks	Students will be able to analyze the energy transfer in phase changes, perform calculations involving specific heat capacity, and design an efficient melting device.	• Melting device lab report • Unit test
12	Kinetics	3 weeks	Students will be able to describe the effect of various factors on reaction rate and write equations to model the rate of a reaction.	• Alka-seltzer lab report: factors affecting rates of reaction • Unit test
13	Equilibrium	4 weeks	Students will be able to apply Le Chatelier's principle to predict	• Le Chatelier's principle lab



			the shift in equilibrium of a chemical reaction when stress is placed on a system.	report Unit test
14	Nuclear Chemistry	3 weeks	Students will be able to write equations to represent nuclear decay, calculate half-lives, and describe fission and fusion reactions.	- Nuclear energy debate - Unit test

Course-Specific Student Expectations:

- **Study and homework commitment:** Students are expected to complete one hour minimum of chemistry homework every day after school. If the assigned work takes less than one hour, students should spend the remainder of the time reviewing their notes. A minimum of one hour is also expected during the weekend.
- **Late work policy:** Late homework packets, exit tickets, lab reports, and other class assignments will receive an automatic 20% grade deduction. Assignments more than three days late will NOT be accepted, unless there are exceptional circumstances preventing the student from completing work AND the student has emailed Ms. Keenan describing them. Late work should be submitted to the late/absent bin in the front of the classroom.
- **Absent policy:** Students who are absent from school must obtain copies of the assignments they missed and the checklist from the absent folders (located in the front of the classroom) for each day they were out. Students have the number of days they were absent to submit their makeup work without being marked late. For instance, if a student is absent on Monday and Tuesday, she has two days after returning to school to submit her work (she comes back on Wednesday, so she has until Friday to submit her assignments). If a student is absent for a test, quiz, or lab, the student must email Ms. Keenan to make arrangements to make up the missed activity after school. All tests, quizzes, and labs must be made up within one week of the student's return to class or they will earn grades of "zero."
- **Extra help:** Chem Café will take place from 3:15pm-4:15pm on Tuesday and Thursday. This is a time for students to work with friends on homework, enjoy a snack, and receive one-on-one tutoring. Ms. Keenan and qualified peer tutors will be available for 15-minute appointments. Students can sign up for time slots beginning at 3:15pm each day on a first-come, first-serve basis.
- **Extra credit:** There are two opportunities for extra credit in this class. The first is being a top-five finisher on the Kahoot review game before each unit test (earns 5% bonus on unit test). The second is being part of the table group that earned the most "chem points" in a given week (earns 5% bonus on Friday quiz/test). There will be no other extra credit



opportunities. Do not approach Ms. Keenan at the end of the quarter and ask for additional extra credit opportunities as a last-ditch attempt to raise your grade; instead, ask questions throughout the semester, establish a regular study schedule, and come to Chem Café!

- **Test and quiz retakes:** In general, there will NOT be an opportunity to retake tests or quizzes. The grade you earn the first time is your final grade. If exceptional circumstances affected your performance on a test or quiz, you can send Ms. Keenan an email describing what happened, and Ms. Keenan may approve a quiz or test retake.
- **Food policy:** There will be NO EATING in the science classroom in compliance with California safety regulations. Students may not bring food or beverages to class.
- **Friday assessments:** Students should plan to take either a quiz or a unit test every Friday. Frequent assessment helps students to monitor their own progress and seek help immediately after earning a low grade.
- **Exit tickets:** Students will complete a short 5-question “exit ticket” at the end of most lessons. This is like a mini-quiz - students will be able to use their notes, but they will not be allowed to talk to other students. They will immediately see their score and get feedback on incorrect answers. At the end of each week, one exit ticket from that week will randomly be chosen to enter in the gradebook.
- **Interactive notebooks:** Students will maintain notebooks that contain a mix of Cornell notes, taped-in handouts and foldables, drawings, and color-coded diagrams. These notebooks will be handed in and graded at the end of each unit. *If a student loses their notebook, it is their responsibility to obtain a new one. They will NOT be excused from the next graded notebook check - they will either need to re-create the missing parts of their notebook using handouts from the absent bin or earn a grade of “zero.”*
- **3-strike policy:** Behavior that does not follow GPA culture/REACH values will be handled with a 3-strike system. The first incident in a given class period (such as talking out of turn) will result in a warning, the second incident will result in a phone call home, and the third incident will result in a referral to the Office of Student Conduct (OSC). The citizenship grade of any student who is referred to OSC will drop a full letter grade. For example, if the student generally behaved at the “G” level (good) during the quarter, the OSC referral lowers their grade to an “S” (satisfactory). To support positive energy and a fresh start, “strikes” are renewed each day.
- **Class preparedness:** Students are expected to bring their GPA binder, chemistry notebook, planner, charged chromebook, and two writing utensils in different colors to class each day. Failure to meet this expectation will result in a “strike” (see three-strike policy).
- **No-name policy:** Work submitted with no name or an illegible name will be placed in the lost and found bin and earn a grade of “zero.” Students may retrieve their work from the lost and found bin, write their name on it, and re-submit it to the absent/late work bin. It will earn a 20% point deduction for being late.



- **Tardy policy:** Students who arrive to class after honor must write their name and the time they arrived on the “tardy log” (taped to the whiteboard). If they have a pass, they will write their name, the word “pass,” and leave their planner on the lab bench by the whiteboard for Ms. Keenan to check. Students without a pass must stay after school Tuesday or Thursday and make up the number of minutes they were late rounded up to the nearest 10. For instance, if they are 4 minutes late, they must make up 10 minutes; if they are 12 minutes late, they must make up 20 minutes. If students do not make up tardy time after school, their citizenship grade will be lowered one letter grade for the quarter.
- **Lost and found:** Any papers, notebooks, or other materials that are left behind in Ms. Keenan’s classroom will be placed in the lost and found bin. THE CONTENTS OF THE BIN ARE THROWN OUT AT THE END OF EVERY MONTH, so check it immediately if you are missing something.
- **Leaving the classroom:** Students must obtain permission from Ms. Keenan before leaving the classroom for anything, whether they are blowing their nose, using the bathroom, or going to the nurse. This is for safety reasons: during my class, I am responsible for knowing your location at all times.
- **Material use:** Since this is a hands-on class, students will have the opportunity to use supplies such as colored pencils, scissors, tape, calculators, timers, and lab equipment. Students are expected to treat ALL materials with respect, which means handling them gently, following all instructions, cleaning up, and ensuring that everything is ready for the next class. Failure to adhere to this policy will result in a “strike” - see “3-strike policy.”

Accommodations/Modification and Supports:

Any student who requires accommodations, modifications or additional supports should contact me as early as possible so that we can make appropriate arrangements.

GPA Student Expectations:

School-wide Attendance: All students are expected to be punctual and in their classroom seat, ready to learn for each day. Under California law (Ed. Code 48200) all children between the ages of six and eighteen are required to be enrolled and in regular attendance at school. GPA families know that school attendance is the critical first step to make sure that each student receives an education that will help them on their path to college. Students cannot learn what they need to be prepared for the next grade level, if they are not in school. The more absences from school a student has, the more they fall behind in their classes and the more difficult it will be to make it to college.



Planner Use: All students are expected to write all assignments in their GPA planner daily. Your first GPA planner will be provided by the school to support organization and time management.

Homework Completion: As a school working toward college preparation, all GPA students are expected to complete their daily/weekly assignments. Students who fail to complete their homework assignments on time, and are unexcused, will be required to attend lunch and after school tutoring support daily until completed. Until all assignments are completed, students may not be eligible for athletics, clubs, and other extracurricular activities.

Electronic Device Policy: Cell phones, smart watches, and other electronic communication devices that can send and/or receive data are not permitted to be visible, heard, or used in any manner during school hours except by approval of school authorities. Any violation and/or disruption of the learning process will result in the confiscation of the item. The parent/guardian must pick up the confiscated item from the Office of Student Conduct or the teacher.

Computer/Internet Usage Policy: Students may not use computers and/or the GPA network without proper adult supervision. The teacher/staff will choose resources on the Internet that are appropriate for classroom instruction and/or research for the needs, maturity, and ability of their students.

Acceptable Use-

- Access to any site that provides information relevant to current class assignments
- Access to college or university websites
- Use of teacher approved educational software (games, instructional tools, etc.)

Academic Integrity: Honest behavior is an expectation for all students at Gompers Preparatory Academy. Our goal is to create and maintain an ethical academic atmosphere. Acts of academic dishonesty that will not be tolerated at GPA are listed below:

- Cheating on any classroom assignment, test, or quiz
- Plagiarism - copying or representing another's ideas, words, or work as one's own, without properly citing the source. Plagiarism includes the misuse of published material, electronic material, and/or the work of other students. The original writer who intentionally shares his/her work for another to copy, without the permission of the teacher, is also engaged in plagiarism
- Fabrication (any falsification or invention of date, citation, or other authority in an assignment); theft or alteration of materials
- Unauthorized collaboration
- Unauthorized use of electronic devices



Students found in violation of GPA's Academic Integrity Policy will be disciplined appropriately, which may lead to formal suspension. Consequences for offenses may include, but are not limited to, detention, ***lowering of academic and citizenship grade and/or suspensions/exclusion from extracurricular activities.***

Standards/Format for Writing Papers - MLA Format:

The standard format for all papers follows the MLA formatting rules:

1. Typed, double-spaced: TIMES NEW ROMAN, 12 font, including title
2. Heading: 4 lines - UPPER LEFT corner

Student name:	"Sammy Gompers"
Teacher name:	Ms. Teacher
Course name, period:	English I, Period 3
Date	06 February 2009
3. All pages numbered: upper right corner, last name and page number; no punctuation, no "p." or "pg."
4. Title: centered, upper and lower case
5. Work Cited/ Documentation Format: It is necessary to credit any source that is used in a paper or project. Plagiarism is considered cheating. All sources must be documented. Citing sources in a paper must be thorough and accurate. MLA formatting for in-text citations and works cited is mandatory.

Important Dates:

Quarter 1:

- Q1 Finals Week: October 23rd and 27th
- Parent Conferences: October 23rd - 27th
- End Date: October 30th

Quarter 2:

- Q2 Finals Week: January 22nd - 26th
- Parent Conferences: January 16th - 22nd
- End Date: January 31st

Quarter 3:

- Q3 Finals Week: April 9th - 13th
- Parent Conferences: April 16th - 20th
- End Date: April 23rd



Quarter 4:

- Q4 Finals Week: May 29th - June 1st
- End Date: June 26th

Student Signature: _____

Date: _____

Parent/Guardian Signature: _____

Date: _____

