

FUNDAMENTALS OF CHEMISTRY SYLLABUS

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Room 22

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Text:

There is no textbook for this class. Instead, students will be given online videos, readings and quizzes as well as handouts.

Description:

In this chemistry class, students will begin to learn how subatomic particles affect the world around them as well as their own bodies. Students will learn about the periodic table, learn how to balance equations, learn the types and behaviors of different bonds, understand how intermolecular forces affect the behavior of materials and learn the gas laws and how they affect the environment and living things.

Goals:

Students will gain an understanding of:

- chemical reactions and strategies to balance them
- the relative quantities of reactants and products
- the fundamental properties of atoms, molecules, and the various states of matter
- the electronic structure of atoms and its influence on chemical properties
- molecular geometries of selected molecular species
- the fundamentals of acid/base chemistry, including pH calculations, buffer behavior, and acid/base titrations
- the energy and speed of chemical reactions
- unit conversions and their importance in clinical medicine
- molecular interactions and chemical reactions in the body
- the scientific method of collecting and analyzing information
- proper laboratory safety and techniques

Materials Needed:

Internet access and district issued chromebook

A calculator (or scientific calculator app on a phone) is necessary at home. In class, scientific calculators will be provided when needed.

Evaluation:

Student grades will be assessed using the following criteria:

Tests/quizzes: 60%

Labs: 30%

Participation: 10%

Criteria for Assessments:

Tests: tests include any summative assignment. These include unit tests, quizzes etc. If a student wishes to retake a test, they must first complete the test remediation sheet and then come after school on Tuesday or Thursday (late busses are available). The objective of the course is to allow students to master concepts, therefore homework will not be graded. If a student feels that they have mastered the topic, they do not need to complete homework. If they are struggling, it is the student's responsibility to complete the homework until mastery is reached.

Labs: will be handed in via Google Classroom. Students will be assigned a lab partner, but if there is an issue collaborating, each student should hand in their OWN lab report. It is the student's responsibility to access Classroom and submit the work. Ample time is given following a lab before the report is due, so lack of internet at home is not an excuse for not handing in a lab report.

<u>Weeks</u>	<u>Projected Chemistry Topics</u>
Unit 1	Lab Safety, Procedures and routines
Unit 2	Atomic Origins
Unit 3	Atomic Structure
UNit 4	The Periodic Table
Unit 6	Ionic Bonding & Ionic Compounds
Unit 7	Covalent Bonding & Molecular Compounds
Unit 8	Intermolecular Forces
Unit 9	Mole Calculations
Unit 10	Chemical Reactions
Unit 11	Stoichiometry
Unit 12	Gases
UNit 14	Thermochemistry
Unit 15	Acids & Bases
Unit 16	Kinetics and Equilibrium

