


Chemistry 12

 **Welcome to Chemistry 12!** Chemistry is the science which deals with the properties and reactions of materials; it is concerned with identification, characterization and transformation of matter and the energy changes accompanying these transformations. Chemical science focuses on the structure and interaction of matter at the atomic and molecular level. In this course we will begin with a look at what goes on "inside" a chemical reaction and how this can be used to control the reaction. These concepts will then be used to introduce forward and reverse reactions as well as the interaction between them. This knowledge is then used to further understand the dissolving of a substance and the equilibrium that exists between a solute and a solvent. Next we will examine acid and bases and see how the principles that we have already learned apply to acid bases chemistry. Finally we will study electrochemistry which is also firmly rooted in the concepts we learned earlier in the course. Through out this course will look to the Creators role in originating, upholding , guiding and ruling his world. *Romans 1:20 says " For since the creation of the world, God;s invisible qualities have been clearly seen, being understood from what has been made, so that men and without excuse.*

CHEMISTRY 12 TOPICS

TOPIC
Unit 1: Reaction Kinetics
a) Introduction
b) Collision Theory
c) Reaction Mechanisms
Unit 2: Equilibrium
a) Introduction
b) Le Chatelier's Principle
c) Equilibrium Constant
Unit 3: Solubility Equilibrium
a) Concept of Solubility
b) Solubility and Precipitation
c) Quantitative Aspects

TOPIC
Unit 4: Acids, Bases and Salts
a) Properties and Definitions
b) Strong and Weak Acids and Bases
c) Kw, pH, pOH
d) Ka, Kb Problem Solving
e) Hydrolysis of Salts
f) Indicators
g) Neutralization of Acids and Bases
h) Buffer Solutions
i) Acid Rain
Unit 5: Electrochemistry
a) Introduction
b) Balancing Redox Equations
c) Electrochemical Cells
d) Corrosion

Note: Topics may not be taught in the order shown

Evaluation

•Your grade will be made up from the following categories and mark breakdown:

Exams	60%	Term 1	40%
Lab Work	20%	Term 2	40%
Quizzes/Projects	10%	Final Exam	20%
Homework	10%		
Total	100%	Total	100%

Important Note.

1. Chemistry 12 is a very intensive course that covers a lot of material, it is easy to fall behind so it is essential that students do home study on top of assigned home work
2. **Be seated and ready to work at the sound of the bell.** If you are late, enter the classroom **quickly and quietly** and take your seat. See the teacher after class to explain yourself. Also note that you will be marked late if you come to class, place your books on your desk, and leave the class on an errand
3. If you are absent from class(es), it is **your** responsibility to obtain any missed notes and assignments **on your own time**
4. All assignments must be completed **on the due date at the start of class.**
5. Students missing a quiz, lab or test **will receive a grade of zero** unless medically or officially excused
6. Excused students must be prepared to make up missed assignments, quizzes or tests **on the first day back** to Chemistry class.
7. Arrangements must be made for students to come into the lab during lunch hour to make up missed lab work.
8. **Every lab must be completed by every student.**
9. Extra help occurs outside of regular class time (lunch hours and after school. It is assumed that students experiencing difficulties will seek extra help as soon as the difficulties arise
10. Test corrections may be completed on a **separate piece of paper** for an extra 5% on the test score. It is expected that the student will **explain** what errors were made on the original question in order to obtain the 5%. This grace will extend for **7 calendar days** after the test has been handed back after which the offer of 5% is no longer valid