



10th-12th Grades

High School Chemistry

Instructor: Dale Keiser

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General Statement: Science is divided into the study of living things and nonliving things, in other words, the life sciences and the physical sciences. Life sciences include zoology and botany (combine as biology). Physical sciences include astronomy, chemistry, and physics. The study of chemicals is the study of molecules. How they are made, how they bond together, and the reactions they readily undergo.

Topics covered will include:

- Measurement, Units, and the Scientific Method.
- Atoms and Molecules
- Polyatomic Ions and Molecular Geometry
- Changes in Matter and Chemical Reactions
- Describing Chemical Reactions
- Acid-Base Chemistry
- The Chemistry of Solutions
- Energy, Heat, and Temperature
- Chemical Equilibrium
- Reduction-Oxidation Reaction
- Molecular Structure
- Atomic Structure
- Stoichiometry
- The Gas Phase
- Thermodynamics
- Kinetics

Materials Required:

- Apologia Exploring Creation with Chemistry 3rd Ed., textbook.
- 3-ring Binder with paper
- Bible (must be brought to each class)
- Scientific calculator such as a TI-084

Class Format: Topics will be presented in a lecture-discussion format with questions from both the instructor and from the students. Class participation by students is expected. Laboratory time will involve experiment discussions followed by performance of experiments and/or exercises. Lab work is designed to demonstrate concepts presented in class. Attendance is necessary in both lecture and lab.

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Scandium	Iodine	Electron	Nitrogen	Cerium

Prerequisite: Algebra I

Meet the Tutor:

Dale Keiser holds an MA degree in Physical Chemistry from Western Michigan University. He spent 37 years working for The Upjohn Company, Pharmacia and Upjohn, Pharmacia, and Pfizer in both the Control Division and the Research and Development Group. The study of packaging materials comprised a major amount of his career.

His previous and current teaching experiences include: Quantitative Analysis Laboratory sessions while in graduate school and High School Physics Tutor at Kalamazoo Area Tutors (KAT).

He has been married to his wife Barb for 55 years and they attend Calvary Bible Church in Kalamazoo. In his free time he enjoys cycling and mowing the lawn.

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Syllabus:

Class Requirements:

1. Each student will be expected to memorize required verses. The final grade will be withheld until this requirement has been completed.
2. Test will be "take home." Any resources may be used to complete these tests. Completed tests are due at the beginning of the next class session. The scores on these tests will be the major determinant of your grade.
3. Each class session begins at 8:30 AM. Please make every effort to be present on time. Sessions will begin with the proverb of the day. Since the book of Proverbs has 31 chapters, there is one chapter for each day of the month. We will read and discuss one chapter for about the first 20 minutes of each class session. Your attendance is required during these reading and discussions!

Student Conduct:

All the usual rules of REACH Kzoo apply. Do not dress in a provocative manner, treat others with respect, only one speaker talking at a time, complete all assignments, arrive at each class session on time prepared to participate, etc. Even though the concepts we discuss are fairly simple, extra time may be required for some to understand a concept. Every effort will be made to resolve any difficulty, however, it will be at the discretion of the instructor to move on with the class rather than spend everyone's class time for one to catch up. If there are problems keeping up with the course material help is available - contact the teacher outside of the class sessions by phone or email. Do not fall behind!

Fees:

Tuition: \$350.00

Self Pay: Tuition is \$350 due 9/7/2022. Please contact me if you would like to set up a payment plan of \$175 due on 09/07/2022 and \$175 due 01/18/2023.

LAMP Families: \$350 is the amount to submit to LAMP (\$38.89/mo) Any balance not cover by LAMP is due on or before October 20, 2022 and is non-refundable.

LAMP Families are required to self-pay for any missed LAMP payments due to a student dropping after the third class or not meeting LAMP requirements during the semester.

DROP/ADD Policy:

If a student needs to drop this class in the first two weeks, tuition will be refunded. If the drop occurs after the third class, the tuition is non-refundable.

No new students may add the course after registration closes without consent from both the tutor and REACH.

