

Morgan Hill Unified School District
Course Outline

Course Title: Physical Science – Agricultural Emphasis
Course Length: 1 Year
Grades: 9th – 12th Grade

Course Goals

- Demonstrate knowledge of organization of chemicals by periodic characteristics.
- Demonstrate knowledge of chemical bonding due to electrostatic forces.
- Demonstrate knowledge of nuclear fusion, fission, and radioactive decay.
- Demonstrate knowledge of the components of a stable ecosystem.
- Demonstrate knowledge of the structure, scale and changes in the universe.
- Demonstrate knowledge of energy flow and exchange.
- Demonstrate the knowledge of California geologic hazards, water issues, and plate tectonics.
- Demonstrate the skills to ask meaningful questions and conduct careful investigations
- Demonstrate knowledge of the agriculture industry, technology and related career opportunities.
- Demonstrate knowledge of the California Agriculture Science Record Book and maintain a supervised agriculture project.
- Demonstrate leadership development plan for personal growth.

Texts and Supplemental Instructional Materials

1. Conceptual Physical Science Exploration Hewitt, Suchoki, and Hewitt (Addison-Wesley)
2. Lab Equipment, Teacher Prepared Materials, Multimedia Materials
3. School Computers
4. FFA student handbook/FFA manual

Course Objectives by Essential Standards and State Health Standards

Standard 1: Chemistry

Students will demonstrate the knowledge that the Periodic Table displays the elements in increasing number and shows how periodicity of the physical and chemical properties of the elements relates to atomic structure, as measured by a variety of methods, such as quizzes, tests, presentations, projects, labs, activities, notes, journals, portfolios, visual and/or verbal assessments. In order to exhibit proficiency, students will recognize:

- How to relate the position of an element in the Periodic Table to its atomic number and atomic mass.
- How to use the Periodic Table to identify metals, semimetals, nonmetals, and halogens.
- How to use the Periodic Table to identify alkali metals, alkaline earth metals and transition metals, and trends in ionization energy, electronegativity, and the relative size of ions and atoms.