

# High School Courses Grades 9-12

## Courses

- Biology
- Chemistry
- Earth/Environmental Science
- Physical Science
- Physics
- AP Science Courses

## The Unifying Concepts of Science

The high school science component of the *SCS* focuses on the unifying concepts of science as identified by the *National Science Education Standards*. The unifying concepts and the strands should be integrated with the science content goals and objectives for high school. The unifying concepts of science consist of:

- Systems, Order, and Organization.
- Evidence, Models, and Explanation.
- Constancy, Change, and Measurement.
- Evolution and Equilibrium.
- Form and Function.

## Strands

The strands include the following goals: Nature of Science, Science as Inquiry, Science and Technology, Science in Personal and Social Perspectives.

## Nature of Science

As a result of activities in grades 9 - 12, all students should develop an understanding of:

- Science as a human endeavor.
- Nature of scientific knowledge.
- Historical perspectives.

## Science as Inquiry

As a result of activities in grades 9 - 12, all students should develop:

- constructing hypotheses.
- The ability to do scientific inquiry.
- Understanding about scientific inquiry.
- Abilities to perform safe and appropriate manipulation of materials, equipment, and technologies.
- Mastery of integrated process skills.
  - constructing hypotheses.
  - acquiring, processing, and interpreting data.
  - identifying variables and their relationships.
  - designing investigations.
  - experimenting.
  - analyzing investigations.
  - formulating models.

### **Science and Technology**

As a result of activities in grades 9 - 12, all students should develop:

- An understanding of technology.
- The ability to perform technological design.
- An understanding of the connection between science and technology.

### **Science in Personal and Social Perspectives**

As a result of activities in grades 9 - 12, all students should develop an understanding of:

- Personal and community health.
- Population growth.
- Natural resources.
- Environmental quality.
- Natural and human-induced hazards.
- Science and technology in local, national, and global challenges.
- Careers in science and technology.