

# Center Unified School District

## Middle School Course Outline

**Title:** General Science (Focus on Life Science)

**Grade Level:** 7<sup>th</sup> Grade

**Prerequisites:** 7<sup>th</sup> Grade Standing

**Course Description:** The seventh grade middle school science program emphasizes individual and active learning. This approach focuses on how a learner fits new information into his or her existing bank of knowledge and attitudes so new concepts will be constructed. Students understand the nature of science both as a way of thinking about the world and as a process. This program reflects the current state science standards for Seventh Grade. Each grade level includes investigation and experimentation as it relates each of the subject area/standards covered. The subject areas covered as follows:

- Cell Biology
- Genetics
- Evolution
- Earth and Life History
- Structure and Function in Living Systems
- Physical Principles in Living Systems

Details of the individual elements for each standard can be found on the CA Dept. of Education web site: <http://www.cde.ca.gov/be/st/ss/documents/sciencstnd.pdf>

### Units of Instruction:

**Introduction to Science/Science Skills:** Key concepts- scientific method, metric measurements of length, volume, and mass, and graphing skills

**Textbook chapters to supplement lessons and activities: Chapter 1**

**Rocks:** Key concepts- types of rocks, rock cycle, relative age of rocks, plate movements

**Textbook chapters to supplement lessons and activities: part of Chapter 8**

**Fossils/Earth and Life History:** Key concepts- types of fossils, how fossils are used to date rocks, extinction, geologic time.

**Textbook chapters to supplement lessons and activities: Part of Chapter 7, and Chapter 8**

**Evolution and Classification:** Key Concepts- Darwin's theory, natural selection, fossil evidence, variation, adaptation, classifying organisms, branching diagrams

**Textbook chapters to supplement lessons and activities: Chapter 7**

**Plants and Microscopes:** Key Concepts- learning how to use a microscope, photosynthesis, respiration, parts of a flowering plant, reproduction in plants, seed dispersal.

**Textbook chapters to supplement lessons and activities: parts of Chapter 4 and Chapter 10.**

**Cells:** Key Concepts- cell structure and function, cell parts and functions, cell differentiation, plant cells vs. animal cells.

**Textbook chapters to supplement lessons and activities: Chapter 3**

**Genetics:** Key Concepts- cell division, Mendel's work, probability and heredity, the cell and inheritance, genes, DNA and proteins, human inheritance.

**Textbook chapters to supplement lessons and activities: part of Chapter 4, Chapter 5 and part of Chapter 6.**

**Eyes & Light, Ears & Sound:** Key Concepts- waves, electromagnetic spectrum, visible light and color, seeing light, optical tools, structure and function of the eye and ear, parts of the eye.

**Textbook chapters to supplement lessons and activities: Chapter 2 and parts of Chapter 15**

**Bones, Muscles and Simple Machines:** Key Concepts- body systems, skeletal system, muscular system, machines and the body.

**Textbook chapters to supplement lessons and activities: Chapter 13**

**Evaluation:** Student progress will be evaluated by:

Assignments= 45% of semester grade

Assessments= 40% of semester grade

Semester Final= 15% of semester grade

**Instructional Strategies- May include some or all of the following:**

Lecture/Note taking/Power Points

Observation/Demonstration

Laboratory hands-on experimentation

Written assignments

Virtual Labs

Success Tracker

Group Projects

Cooperative Groups

Audio-visual aids

Tests/Quizzes

Games

Reading-text, graphs, charts, magazines, news articles

**Materials and Resources:**

Textbook: Focus on Life Science, Science Explorer- California Edition

Workbook: Reading And Note Taking Guide, California Life Science