

Center Unified School District

Middle School Course Outline

Title: General Science (Focus on Life Science)

Grade Level: 7th Grade

Prerequisites: 7th 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= 40% of semester grade

Assessments= 45% 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