

Class: Earth Science

Grade: 8

General Course information: Topics covered in this class include

1. **Astronomy:** the universe – galaxies/stars, the sun the solar system-planets, the earth and the moon;
2. **Geology:** rocks and minerals, weathering, landforms, plate tectonics, earthquakes, volcanoes and forces that build up or wear down the earth's surface
3. **Hydrology:** groundwater, oceans, and the hydrologic cycle
4. **Geologic history:** geologic time, fossils, geologic structures
5. **Meteorology:** atmosphere, mechanisms of heat transfer, weather, and forecasting
6. **Application of scientific methods and science inquiry**

Outcomes

Students will recognize that the universe consists of billions of galaxies/stars and will understand some of what is known and or theorized about stars/galaxies, the universe, the solar system-sun and the planets. Students will understand knowledge is limited by technology and theories change as new information is gained.

Students will learn the processes that build up features on or below the surface, and the processes that destroy or change such features. In labs, students will learn how various processes work individually and together to create and destroy landforms; students will also describe various processes and interactions of the rock cycle.

Students will discover how oceans, groundwater and other forms of water are interconnected in the hydrologic cycle, how when one piece is altered, all are affected. Student will understand how the role of Earth's spin (coriolis effect) on wind and currents, and how oceans help moderate and control global climates.

Students will interpret successive layers of sedimentary rocks and their fossils to document the age and history of the earth; student will identify and create classification charts for various fossil identification.

Students will investigate how the atmosphere interacts with earth's systems. Student will define radiation, conduction, and convection and explain their effects on weather and climate. Students will collect and use data to predict the weather.

List of resources

Prentice Hall *Scientific Explorer* – Textbook 2007

Glencoe Science *Earth Science* – 2007

Various on-line web-sites

On-line science animations and demonstrations

Earth Science Success

Science inquiry lab manuals

NSTA *PROJECT EARTH SCIENCE – geology, meteorology, oceanography*

National Science Teacher Association Material