



# COVINGTON LATIN SCHOOL

*Achieve here. Excel here. Belong here.*

## PREP 7 EARTH SCIENCE

### **Textbook:**

To be determined

### **Prerequisites:**

Acceptance into the 7<sup>th</sup> grade at Covington Latin School

### **Course Description:**

This is a course in general earth science. The course covers the basics of geology, oceanography, meteorology, and astronomy. The course meets five times a week, one period each day.

### **Course Goals:**

1. To develop a basic understanding of science as a process.
2. To understand the origin of the earth and geologic time.
3. To understand the delicate interactions of the ocean, the earth's surface, and climate, and how these interactions shape the earth.
4. To examine how human interactions with the four spheres of the earth affect earth processes.
5. To examine the historical development of earth science and how those concepts relate to society and technology.

### **Course Objectives:**

1. Students will demonstrate their ability to gather, analyze and present data in laboratory exercises.
2. Students will demonstrate knowledge of all basic earth process.

### **Course Sequence:**

1. Science Basics
  - a. Introduction to Earth Science
  - b. Models of Earth (Latitude/Longitude, Topographic Maps, GPS Receivers)
2. Geology
  - a. Geologic Time
  - b. Relative and Radiometric Dating
  - c. Plate Tectonics (Seafloor Spreading, Plate Boundary Features, Plate Motions)
  - d. Rocks (Rock Cycle, Igneous, Sedimentary and Metamorphic Rocks)
  - e. Earthquakes (Seismic Waves, Causes, California Hazards)
  - f. Volcanoes (Types of Volcanoes and Magma)
3. Oceanography
  - a. Ocean Water (Salinity and Density)

- b. Movements of the Ocean (Currents and Upwelling)
- 
- 4. Atmosphere
    - a. Meteorology
    - b. Atmosphere (Composition/Structure, Movement of Energy)
    - c. Climate (Causes of Changes, Greenhouse Effect)
    - d. Biogeochemical Cycles (Water Cycle, Carbon Cycle)
- 
- 5. Astronomy
    - a. Studying Space (Electromagnetic Spectrum,)
    - b. Our Solar System (Formation, Terrestrial Planets, Gas Giant Planets)
    - c. Minor Bodies of the Solar System (Satellites, Asteroids, Meteors)
    - d. The Sun (Solar Energy, Stellar Evolution)
    - e. Stars, Galaxies and the Universe (Milky Way Galaxy, Types of Galaxies)

**Evaluation:**

**Projects, presentations, homework, tests, and quizzes**, will be evaluated on the basis of a point system. Each will be designated a point value according to the length and difficulty of the task. Students will be told the point value of each assignment when it is assigned.

**Exams** are given at the end of the semester and account for 200 points of the semester grade.

**Supplemental Materials:**

Worksheets, videos, animations from various websites, webquests, and laboratory work.