



**Catholic  
Memorial**  
HIGH SCHOOL

## Year Long Course Plan

**Department:** Science

**Course:** Omega and Alpha Earth/Space Science 727/728

**Essential Learning Outcomes:** After successfully completing this course, students will be able to:

1. Utilize examples to show how scientific method and explanations can be used to make real-life decisions about careers, work places, life-styles, and use of resources.
2. Discuss basic and applied research to show how cultures and individuals have contributed to the development of major ideas in the earth and space science.
3. Using the science themes, distinguish between internal energies (decay of radioactive isotopes, gravity) and external energies (sun) in the earth's systems and explain how these sources of energy have an impact on those systems.
4. Analyze the materials and the geochemical and physical cycles of the earth and use them to describe movements of matter.
5. Using the science themes, discuss current ideas in science that attempt to explain the origin of the universe and solar system, including the earth system as a part of the solar system.
6. Identify and, using evidence learned or discovered, replace inaccurate personal models and explanations of science-related events and construct arguments that show how conflicting models and explanations of events can start with similar evidence.
7. Formulate questions suggested by current social issues, scientific literature, and observations of phenomena, build hypotheses that might answer some of these questions, design possible investigations, and describe results that might emerge from such investigations
8. Use graphs, tables, maps, diagrams and other representations to interpret or evaluate the data collected during an investigation, critique the data-collection procedures and results, and suggest ways to make any needed improvements.

<b>Quarter 1</b>	<b>Quarter 2</b>
<p><b>Unit I: Investigating Earth</b></p> <ul style="list-style-type: none"> <li>• Earth as a System (ELO 1,2,4,8)</li> <li>• The Nature of Science (ELO 1,2,3,5,6,7,8)</li> <li>• Models of Earth (ELO 1, 2,6,8)</li> </ul> <p><b>Unit II: Earth's Matter</b></p> <ul style="list-style-type: none"> <li>• Earth Structure and Motion (ELO 2,3,4,5,6,8)</li> <li>• Atoms to Minerals (ELO 4,8)</li> </ul>	<p><b>Unit II (continued)</b></p> <ul style="list-style-type: none"> <li>• Rocks (ELO 4,8)</li> </ul> <p><b>Unit III: Space</b></p> <ul style="list-style-type: none"> <li>• Earth's Moon (ELO 1,2,3,6,7,8)</li> <li>• Sun and Solar System (ELO 2,3,4,5,8)</li> <li>• Planetary Bodies (ELO 1,2,5,6,7,8)</li> <li>• Stars and Galaxies (ELO 2,3,5,6,8)</li> </ul>
<b>Quarter 3</b>	<b>Quarter 4</b>
<p><b>Unit IV The Dynamic Earth</b></p> <ul style="list-style-type: none"> <li>• Plate Tectonics (ELO 1,2,3,4,5,6,7,8)</li> <li>• Volcanoes (ELO 1,2,3,4,6,7,8)</li> <li>• Earthquakes (ELO 1,2,3,4,6,7,8)</li> <li>• Mountain Building (ELO 1,2,3,4,6,7,8)</li> </ul>	<p><b>Unit V Atmosphere and Weather</b></p> <ul style="list-style-type: none"> <li>• The Atmosphere (ELO 1,2,3,4,6,7,8)</li> <li>• Atmospheric water (ELO 1,2,3,4,6,7,8)</li> <li>• Atmospheric Motion (ELO 1,2,3,4,6,7,8)</li> <li>• Weather (ELO 1,2,3,4,6,7,8)</li> <li>• Climate and Change (ELO 1,2,3,4,6,7,8)</li> </ul>

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