

Course Title: HIGH SCHOOL EARTH SCIENCE B	Course Description
<p>Course No. 4302 Grade level: 9-12</p> <p>Text and Resource Options: A. <i>Science Insights: Exploring Earth and Space</i>, Part II; Scott Foresman, Addison Wesley B. <i>Exploring Earth and Space</i>; Globe Fearon C. <i>Modern Earth Science</i>, Part II; Holt, Rinehart and Winston D. <i>Glencoe Earth Science</i>, Part II; Glencoe McGraw-Hill</p>	<p>Course Value: *One Semester</p> <p>Credit Value: 1 – 5 credits</p>
<p align="center">Course Content: Key Content Standards and Course Objectives</p>	
<p>The following objectives are based on the Grades 9-12 Earth Science content standards:</p> <ol style="list-style-type: none"> Energy in the Earth System: Energy enters the Earth system primarily as solar radiation and eventually escapes as heat. Energy in the Earth System: Heating of Earth’s surface and atmosphere by the sun drives convection within the atmosphere and oceans, producing winds and ocean currents. Energy in the Earth System: Climate is the long term average of a region’s weather and depends on many factors. Biogeochemical Cycles: Each element on Earth moves among reservoirs in the solid Earth, oceans, atmosphere, and organisms as part of biogeochemical cycles. Structure and Composition of the Atmosphere: Life has changed Earth’s atmosphere and changes in the atmosphere affect conditions for life. <p><u>Investigation and Experimentation</u></p> <p>Students will ask meaningful questions and conduct careful investigations addressing the content of the above Earth Science standards.</p>	<p>This course will focus on energy in the Earth system and how it drives convection in our atmosphere and oceans, which in turn drives global climate conditions and local weather patterns. Students will learn about Earth’s interior heat that originated with the formation of the planet as well as the interior heat generated by the decay of radioactive nuclides. Students will also understand how life on Earth creates changes in the atmosphere, which in turn, affects conditions for life on Earth.</p> <p>*Open entry/open exit</p>
<p align="center">Methods of Study</p>	<p align="center">Evaluation of Performance Standards</p>
<ol style="list-style-type: none"> Students will complete all activities assigned. Students will participate in discussion with other class members and/or teacher. 	<ol style="list-style-type: none"> Students will complete all assignments with a minimum of 70% accuracy. The supervising teacher will be satisfied with the quality of the student’s work. The student must receive a minimum score of 70% on a teacher assigned final evaluation. Letter grade contracts are optional and require a higher level of performance.

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Course Outline: 4302

I. Textbook Assignment Options:

- A. *Science Insights: Exploring Earth and Space, Part II (5.0 credits)*
- Read: Chapters 14-25.
 - Complete: all “Check and Explain” questions at the end of each section.
 - Complete: “Chapter Review” exercises (**Omit:** “Make Connections”)
 - Complete one of the Extension Activities listed below.
- B. Exploring Earth and Space: *Earth Science, Part II (5.0 credits)*
- Read: Chapters 13-25.
 - Complete: all “Section Review” exercises.
 - Complete: “Chapter Review” exercises (**Omit:** “Going Further” activities)
 - Complete two of the Extension activities listed below.
- C. *Modern Earth Science, Part II (5.0 credits)*
- Read: Units 5-8.
 - Complete: all “Section Review” questions.
 - Complete: “Chapter Review” exercises (**Omit:** “Application” and “Extension” activities).
 - Complete two “Small-scale Investigation” activities from Unit 5-8 **or** one of the Extension Activities listed below.
- D. *Glencoe Earth Science, Part II (5.0 credits)*
- Read: Units 5-7.
 - Complete: all “Section Wrap-Up” exercises
 - Complete: “Chapter Review” exercises (**Omit:** “Developing Skills” and “Performance Assessment”).
 - Complete one of the Extension Activities listed below.

II. Extension Activity Options: (All writing assignments should meet rubric EXP. HS standards).

1. Use at least 3 sources to conduct research on the Solar System. These may include the Internet, a library book, or another media resource. If using the Internet, the search term: “solar system exploration NASA” will give you some information. Write, edit and type a 1-page essay, or prepare a 10-slide PowerPoint presentation based upon your research. Your project should include information about each of the major planets in our solar system, and if completing the PowerPoint, each slide should contain a photo and at least a 1-line description. Your project should include information related to:
 - Origin and Formation
 - Structure and Function
 - Distance and Scale
 - Change over Time

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2. Complete a PowerPoint presentation on Weather and Climate. This presentation should include information from at least 3 sources other than your textbook. Create at least 10 slides in your presentation covering all of the following topics:
 - How water enters and leaves the atmosphere
 - A description of humidity vs. dew point
 - Cloud Formation
 - Air Masses
 - Weather Fronts and Storms
3. Using at least 3 different sources, research **three** of the major oil spills that have occurred in the world and prepare a report on the environmental and economic effects of those oil spills. You can use the Internet, an encyclopedia, scientific magazine, newspaper or educational programming to help you with your research. Write, edit and type a 1-page report that also contains a bibliography.
4. Use the Internet to research weather forecasting. Detail the technology used to gather data and to create forecast models. Use this information to create a 1-page essay.
5. Teacher generated activity, approved by the site administrator.

III. Evaluation

- See your teacher for a unit test.
- All Writing assignments must meet the proficient level of the rubric provided by the teacher.
- All textbook work must meet 70% accuracy level for a “C” grade.