a-g Earth Science

Abbreviation: a-g Earth Science A, a-g Earth Science B

Title: a-g Earth Science

Length of course: Full Year

Subject area: College-Preparatory Elective (G) / Science - Physical Sciences

UC honors designations: No

Prerequisites: Algebra 1 (Recommended)

Co-requisites: None

Integrated (Academics/CTE)? No

Grade Level: 9th

Course Description

Course Overview:

Earth Science is an NGSS aligned science course where students use science inquiry and lab processes to explore Earth science concepts that build comprehension around Earth systems, the processes that shape it, and it's place in the universe. The course emphasizes the students' ability to demonstrate their knowledge of Earth science within the context of the Science and Engineering Practices outlined in the Next Generation Science Standards. The units within this course are presented thematically to provide a context for student learning. Students will gain a foundation in the major physical processes that shape our planet and universe: geosciences, oceanography, meteorology, and astronomy.

Course Content:

Unit 1: Earth Science

In this unit students will work

In this unit students will work to answer the guiding questions: "What is Earth Science/", "How do we study it and come to an understanding of how we know what we know?", "How is our knowledge communicated?", "What are some ways we create models that reflect different aspects of the Earth's surface?", and 'How do we get data from which we can derive our models". In this brief introductory unit, students investigate the scope of Earth science, subspecialties of Earth science, the methods of Earth science, means of measuring and collecting data, and how we can communicate the results from the data we gather. Additionally, students will study mapping of our world, latitude, longitude, types of maps, and the science and technology behind the remote sensing used to create maps. Before moving on, students should be able to analyze a topographic map, and be able to draw conclusions and applications for the data provided.

NGSS Core Performance expectations emphasized:

HS-ESS2-1. Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.. [Clarification Statement: Emphasis is on how the appearance of land features (such as mountains, valleys, and plateaus) and sea-floor features (such as trenches, ridges, and seamounts) are a result of both constructive forces (such as volcanism, tectonic uplift, and orogeny) and destructive mechanisms (such as weathering, mass wasting, and coastal erosion).] [Assessment Boundary: Assessment does not include memorization of the details of the formation of specific geographic features of Earth's surface.]

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. (Systems and System Models) Clarification Statement: Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system. Assessment Boundary: Assessment is limited to the interactions of two systems at a time.

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area. (Patterns) Assessment Boundary: Assessment does not include quantitative scaling in models.

4-ESS2-2 Analyze and interpret data from maps to describe patterns of earth's features. Clarification Statement: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.

Unit Assignments(s):

Using a Topographic Map

Each student will receive a topographic map and will use it to interpret information about an area. They will analyze the map and use it to draw conclusions and make applications.

Unit Lab Activities

Summary of sample lab- Measuring in SI. Students will review basic SI units that will be used in Earth science, demonstrate how to properly use a balance and spring scale. They will measure area, volume, mass and weight of several rock samples. They will calculate density of each sample. They will explain the relationship among quantities and make predictions regarding buoyancy.

Unite 2: Composition of the Earth

In this unit students will work to answer the guiding questions: "What are the underlying chemical concepts that influences all of Earth science including determining the behavior and composition of minerals, rocks, water, and erosion?" "Why is the molecular structure important in the shape and function of various materials?" " How does the model of the atom help us understand processes such as fission, fusion, radioactive decay, combustion, oxidation, and other chemical processes?" " How can the periodic table help us to predict properties of various elements based on the pattern of electrons?" In this unit , students investigate matter and atomic structure, what are elements, how atoms combine, and states of matter. They will follow this up with exploring the nature of minerals and their identification, igneous rocks and their classification. It concludes with investigating sedimentary and metamorphic rocks, their types and formation.

NGSS Core Performance expectations emphasized:

HS-PS1-1 Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms. Clarification Statement: Examples of properties that could be predicted from patterns could include reactivity of metals, types of bonds formed, numbers of bonds formed, and reactions with oxygen. Assessment Boundary: Assessment is limited to main group elements. Assessment does not include quantitative understanding of ionization energy beyond relative trends.

HS-PS1-8 Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay. (Energy and Matter) Clarification Statement: Emphasis is on simple qualitative models, such as pictures or diagrams, and on the scale of energy released in nuclear processes relative to other kinds of transformations. Assessment Boundary: Assessment does not include quantitative calculation of energy released. Assessment is limited to alpha, beta, and gamma radioactive decays.

HS-PS2-6 Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials. (Structure and Function) Clarification Statement: Emphasis is on the attractive and repulsive forces that determine the functioning of the material. Examples could include why electrically conductive materials are often made of metal, flexible but durable materials are made up of long chained molecules, and pharmaceuticals are designed to interact with specific receptors. Assessment Boundary: Assessment is limited to provided molecular structures of specific designed materials.

MS-ESS2-1 Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. (Stability and Change) Clarification Statement: Emphasis is on the processes of melting, crystallization, weathering, deformation, and sedimentation, which act together to form minerals and rocks through the cycling of Earth's materials. Assessment Boundary: Assessment does not include the identification and naming of minerals.

MS-ESS2-2 Construct an explanation based on evidence for how geoscience processes have changed earth's surface at varying time and spatial scales. Clarification Statement: Emphasis is on how processes change Earth's surface at time and spatial scales that can be large (such as slow plate motions or the uplift of large mountain ranges) or small (such as rapid landslides or microscopic geochemical reactions), and how many geoscience processes (such as earthquakes, volcanoes, and meteor impacts) usually behave gradually but are punctuated by catastrophic events. Examples of geoscience processes include surface weathering and deposition by the movements of water, ice, and wind. Emphasis is on geoscience processes that shape local geographic features, where appropriate.

Unit Assignments(s):
Summary of sample assignment- Interpreting scientific illustrations. Igneous rocks are classified by their composition. Students will estimate the different percentages of mineral in an igneous sample and use the results to classify the rock.

Unit Lab Activities:

Summary of sample lab-Salt precipitation. Students will identify precipitated salt crystals, compare the effect of varying the conditions on crystal formation, and hypothesize why varying conditions produce different result.

Unit 3- Surface Processes on Earth

Description: In this unit students will work to answer the guiding questions: "How does the flow of energy drive the cycling of Earth's materials?" , "How have geoscience processes changed the

Earth's surface/" " How is water cycled through Earth systems?", "How does energy and gravity drive the flow of Earth's materials and water resources?" "How do wind, water, glaciers and mass movements change the Earth's surfaces?", "How is soil formed?" In this unit, students investigate the roles of weatherine, erosion, deposition, and formation of soil. They will be exploring the roles of mass movements, wind, and glaciers, in the changes of the Earth's surface at varying times and spatial scales. They will develop a model for surface water movement and stream development as well as lakes and freshwater wetlands. They will construct and explanation for groundwater systems including movement and storage of groundwater its erosion and deposition.

NGSS Core Performance expectations emphasized:

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MS-ESS2-4 Develop a model to describe the cycling of water through earth's systems driven by energy from the sun and the force of gravity. (Energy and Matter) Clarification Statement: Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Examples of models can be conceptual or physical. Assessment Boundary: A quantitative understanding of the latent heats of vaporization and fusion is not assessed.

Unit Assignments(s):
Summary of sample assignment-Observe How Ice Cores Record History. Students will analyze data from an ice core sample and make historical inferences relating to their findings.

Unit Lab Activities:
Summary of sample lab-Effects of Weathering. Students will determine the relationship between the length of time that rocks are exposed to running water the degree of weathering of the rocks using halite chips.

Unit 4- Atmosphere and the Oceans

Description: In this Unit students will work to answer the guiding questions:"How does solar energy drive atmospheric conditions?" , "What is the nature of seawater?", " What are the driving forces behind ocean movements?", "How is the marine environment shaped by oceanic Processes?" In this unit students will develop and understanding of atmospheric basics, the state of the atmosphere and moisture in the atmosphere. They will develop model to illustrate the causes of weather and weather systems. They will explore how weather data is collected and analyzed. They will investigate the nature of storms including thunderstorms, tropical storms, and severe weather. Oceanography to

describe ways the geosphere, hydrosphere, biosphere and atmosphere interact impacting ocean movement and marine environments including shoreline features and the ocean floor.

NGSS Core Performance expectations emphasized:

HS-ESS2-1 Develop a model to illustrate how earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features. (Stability and Change) Clarification Statement: Emphasis is on how the appearance of land features (such as mountains, valleys, and plateaus) and sea-floor features (such as trenches, ridges, and seamounts) are a result of both constructive forces (such as volcanism, tectonic uplift, and orogeny) and destructive mechanisms (such as weathering, mass wasting, and coastal erosion). Assessment Boundary: Assessment does not include memorization of the details of the formation of specific geographic features of Earth's surface.

5-ESS2-1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. (Systems and System Models) Clarification Statement: Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system. Assessment Boundary: Assessment is limited to the interactions of two systems at a time.

HS-ESS2-4 Use a model to describe how variations in the flow of energy into and out of earth's systems result in changes in climate. (Cause and Effect) Clarification Statement: Examples of the causes of climate change differ by timescale, over 1-10 years: large volcanic eruption, ocean circulation; 10-100s of years: changes in human activity, ocean circulation, solar output; 10-100s of thousands of years: changes to Earth's orbit and the orientation of its axis; and 10-100s of millions of years: long-term changes in atmospheric composition.Assessment Boundary: Assessment of the results of changes in climate is limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.

5-ESS2-2 Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. (Scale, Proportion, and Quantity) Assessment Boundary: Assessment is limited to oceans, lakes, rivers, glaciers, ground water, and polar ice caps, and does not include the atmosphere.

HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on earth materials and surface processes. (Structure and Function) Clarification Statement: Emphasis is on mechanical and chemical investigations with water and a variety of solid materials to provide the evidence for connections between the hydrologic cycle and system interactions commonly known as the rock cycle. Examples of mechanical investigations include stream transportation and deposition using a stream table, erosion using variations in soil moisture content, or frost wedging by the expansion of water as it freezes. Examples of chemical investigations include chemical weathering and recrystallization (by testing the solubility of different materials) or melt generation (by examining how water lowers the melting temperature of most solids).

Unit Assignments(s):
Summary of sample assignment-Interpreting a Weather Map. Students will use a surface map to interpret information about current weather and to forecast future weather.

Unit Lab Activities:
Summary of sample lab- Interpreting Pressure-Temperature Relationships. Students will model the

pressure and temperature changes that take place as a result of the expansion and compression of air and relate the changes to processes in the atmosphere.

Unit 5- The Dynamic Earth

Description: In this unit students will work to answer the guiding questions: “What are the causes of continental drift?”, “What are the constructive forces that lead to volcanoes and mountains?”, “How can we understand the Earth’s interior?”, “Why do earthquakes and volcanic explosions occur quickly?” In this unit students will develop a model to illustrate plate tectonics including drifting continents, seafloor spreading and causes of plate motion. They will develop a model based on evidence of Earth’s interior to describe the cycling of matter by thermal convection leading to magma, intrusive activity, and volcanoes. Students will illustrate how Earth’s interior. They will demonstrate how seismic waves can be used to create a model of the Earth’s interior. They will explore how earthquakes are measured and located. Students will investigate crust-mantle relationships, convergent boundary mountains, as well as other types of mountains.

NGSS Core Performance expectations emphasized:

HS-ESS2-1 Develop a model to illustrate how earth’s internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features. (Stability and Change) Clarification Statement: Emphasis is on how the appearance of land features (such as mountains, valleys, and plateaus) and sea-floor features (such as trenches, ridges, and seamounts) are a result of both constructive forces (such as volcanism, tectonic uplift, and orogeny) and destructive mechanisms (such as weathering, mass wasting, and coastal erosion). Assessment Boundary: Assessment does not include memorization of the details of the formation of specific geographic features of Earth’s surface.

HS-ESS2-3 Develop a model based on evidence of earth’s interior to describe the cycling of matter by thermal convection. (Energy and Matter) Clarification Statement: Emphasis is on both a one-dimensional model of Earth, with radial layers determined by density, and a three-dimensional model, which is controlled by mantle convection and the resulting plate tectonics. Examples of evidence include maps of Earth’s three-dimensional structure obtained from seismic waves, records of the rate of change of Earth’s magnetic field (as constraints on convection in the outer core), and identification of the composition of Earth’s layers from high-pressure laboratory experiments.

2-ESS1-1 Use information from several sources to provide evidence that earth events can occur quickly or slowly. (Stability and Change) Clarification Statement: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly. Assessment Boundary: Assessment does not include quantitative measurements of timescales.

Unit Assignments(s):
Summary of sample assignment- Making a Paleomagnetic Map. Students will use paleomagnetic data to interpret information about ocean-floor rocks.

Unit Lab Activities:
Locating an Epicenter

Summary of sample lab- Students will determine the epicenter location at the time of an occurrence of an actual earthquake using the travel time of s-waves and p-waves recorded at three seismic stations.

Unit 6- Geologic Time

Description: In this unit students will work to answer the guiding questions: “What is the fossil record and what does it tell us about the history of the Earth?” “How can we date rocks and remains?”, “What was early Earth like?”, “What are the Paleozoic, Mesozoic and Cenozoic eras?”, “What was the world like when dinosaurs lived?” In this unit students will construct a geologic time scale using relative-age dating of rocks, absolute-age dating of rocks and remains of organisms in the rock record. They will investigate the model for the early earth, the formation of the crust and continents as well as the atmosphere and oceans.

They will explore the argument for the nature of early life on earth. They will construct a scientific explanation for the Paleozoic, Mesozoic and Cenozoic eras based off the evidence from rock strata.

NGSS Core Performance expectations emphasized:

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth’s systems and life on Earth. (Stability and Change) Clarification Statement: Emphasis is on the dynamic causes, effects, and feedbacks between the biosphere and Earth’s other systems, whereby geoscience factors control the evolution of life, which in turn continuously alters Earth’s surface. Examples include how photosynthetic life altered the atmosphere through the production of oxygen, which in turn increased weathering rates and allowed for the evolution of animal life; how microbial life on land increased the formation of soil, which in turn allowed for the evolution of land plants; or how the evolution of corals created reefs that altered patterns of erosion and deposition along coastlines and provided habitats for the evolution of new life forms. Assessment Boundary: Assessment does not include a comprehensive understanding of the mechanisms of how the biosphere interacts with all of Earth’s other systems.

MS-ESS1-4 Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history. (Scale, Proportion, and Quantity) Clarification Statement: Emphasis is on how analyses of rock formations and the fossils they contain are used to establish relative ages of major events in Earth’s history. Examples of Earth’s major events could range from being very recent (such as the last Ice Age or the earliest fossils of homo sapiens) to very old (such as the formation of Earth or the earliest evidence of life). Examples can include the formation of mountain chains and ocean basins, the evolution or extinction of particular living organisms, or significant volcanic eruptions. Assessment Boundary: Assessment does not include recalling the names of specific periods or epochs and events within them.

5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. Clarification Statement: Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months. Assessment Boundary: Assessment does not include causes of seasons.

HS-ESS1-6 Apply scientific reasoning and evidence from ancient earth materials, meteorites, and other planetary surfaces to construct an account of earth’s formation and early history. (Stability and Change) Clarification Statement: Emphasis is on using available evidence within the solar system to reconstruct the early history of Earth, which formed along with the rest of the solar system 4.6 billion years ago. Examples of evidence include the absolute ages of ancient materials (obtained by radiometric dating of meteorites, moon rocks, and Earth’s oldest minerals), the sizes and compositions of solar system objects, and the impact cratering record of planetary surfaces.

4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers for changes in a landscape over time to support an explanation for changes in a landscape over

time. Clarification Statement: Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock. Assessment Boundary: Assessment does not include specific knowledge of the mechanism of rock formation or memorization of specific rock formations and layers. Assessment is limited to relative time.

Unit Assignment(s)
Summary of sample assignment-Mapping Continental Growth. Students will investigate how the distribution of the ages of rocks plotted on a map can be used to interpret the growth of a continent.

Unit Lab Activities:
Summary of sample lab-Symmetry, Shape and Shells. Students will distinguish between brachiopods and bivalves and interpret the environment where a brachiopod lived based on its shell.

Unit 7- Resources and the Environment

Description: In this unit students will work to answer the guiding questions: “What are Earth’s resources and what are they important?”, How does the human population impact the Earth’s resources?” “Why do we need to conserve Earth’s natural resources and how can we do it?” “Why is carbon important and how does it cycle through Earth’s systems?” In this unit students will explore Earth’s land, air and water resources. They will investigate conventional and alternative energy resources as well as means of conserving energy. Students will construct and argument supported by evidence for how Earth’s population and consumption of natural resources impact Earth’s systems They will investigate human impact on land, air and water resources. They will develop a model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.

NGSS Core Performance expectations emphasized:

HS-ESS2-6 Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere. (Energy and Matter) Clarification Statement: Emphasis is on modeling biogeochemical cycles that include the cycling of carbon through the ocean, atmosphere, soil, and biosphere (including humans), providing the foundation for living organisms.

MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact earth's systems. (Cause and Effect) Clarification Statement: Examples of evidence include grade-appropriate databases on human populations and the rates of consumption of food and natural resources (such as freshwater, mineral, and energy). Examples of impacts can include changes to the appearance, composition, and structure of Earth’s systems as well as the rates at which they change. The consequences of increases in human populations and consumption of natural resources are described by science, but science does not make the decisions for the actions society takes.

HS-ESS3-3 Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity. (Stability and Change) Clarification Statement: Examples of factors that affect the management of natural resources include costs of resource extraction and waste management, per-capita consumption, and the development of new technologies. Examples of factors that affect human sustainability include agricultural efficiency, levels of conservation, and urban planning. Assessment Boundary: Assessment for computational simulations is limited to using provided multi-parameter programs or constructing simplified spreadsheet calculations.

HS-ESS2-2 Analyze geoscience data to make the claim that one change to earth's surface can create feedbacks that cause changes to other earth systems. (Stability and Change) Clarification Statement: Examples should include climate feedbacks, such as how an increase in greenhouse gases causes a rise in global temperatures that melts glacial ice, which reduces the amount of sunlight reflected from Earth's surface, increasing surface temperatures and further reducing the amount of ice. Examples could also be taken from other system interactions, such as how the loss of ground vegetation causes an increase in water runoff and soil erosion; how dammed rivers increase groundwater recharge, decrease sediment transport, and increase coastal erosion; or how the loss of wetlands causes a decrease in local humidity that further reduces the wetland extent.

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the earth's resources and environment. (Systems and System Models)

Unit Assignments(s):

Summary of sample assignment-Changes in Energy Resource Use. Students will analyze how the use of energy resources has changed by plotting data on a graph table.

Unit Lab Activities:

Summary of sample lab- Designing a Solar Desalinator. Students will attempt to build a small-scale working solar desalinator.

Unit 8- Beyond Earth

Description: In this unit students will work to answer the guiding questions: "How do we explore the night sky?", "How does the movement of the Earth, Sun and Moon effect length of day, night and seasons?", "What is the nature of the planets?", "How do celestial bodies move through space?" "How are stars formed?", "Why is the sun so much brighter than stars that are more powerful?", "What do we see when we look out in the night sky?". In this unit students will use the how the tools of astronomy can be used to investigate the universe. Students will explore the Moon, The Sun-earth-moon system, the solar system, terrestrial planets and gas-giant planets. They will develop and use a model to describe the role of gravity in the motions within galaxies and solar system and examine the formation of the solar system and stellar evolution. Student will be able to support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth. Students will investigate the nature of the Milky Way galaxy as well as other galaxies and the universe as a whole.

NGSS Core Performance expectations emphasized:

MS-ESS1-2 Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system. (Systems and System Models) Clarification Statement: Emphasis for the model is on gravity as the force that holds together the solar system and Milky Way galaxy and controls orbital motions within them. Examples of models can be physical (such as the analogy of distance along a football field or computer visualizations of elliptical orbits) or conceptual (such as mathematical proportions relative to the size of familiar objects such as students' school or state). Assessment Boundary: Assessment does not include Kepler's Laws of orbital motion or the apparent retrograde motion of the planets as viewed from Earth.

MS-ESS1-3 Analyze and interpret data to determine scale properties of objects in the solar system. (Scale, Proportion, and Quantity) Clarification Statement: Emphasis is on the analysis of data from Earth-based instruments, space-based telescopes, and spacecraft to determine similarities and differences among solar system objects. Examples of scale properties include the sizes of an

object's layers (such as crust and atmosphere), surface features (such as volcanoes), and orbital radius. Examples of data include statistical information, drawings and photographs, and models. Assessment Boundary: Assessment does not include recalling facts about properties of the planets and other solar system bodies.

5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. Clarification Statement: Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months. Assessment Boundary: Assessment does not include causes of seasons.

5-ESS1-1 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth. (Scale, Proportion, and Quantity) Assessment Boundary: Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, stage).

Unit Assignments(s):

Scaling the Solar System
Summary of sample assignment-Students will design and create a scale to demonstrate relative distances between objects in the solar system.

Unit Lab Activities:

Unit Lab Activities: Identifying spectral lines

Summary of sample lab- Students will analyze the lines on a spectrograph to identify stellar spectral lines based on two previously identified lines.

Course Materials

Textbooks

Title	Author	Publisher	Edition	Website	Primary
A Standards-based textbook (This course is aligned to the Glencoe Earth Science: Geology, the Environment and the Universe, but is is designed to work with any CA standards aligned textbook.)	Glencoe	Glencoe	2007	ISBN: 0078772699	Yes