

Catasauqua Area School District Planned Course of Study

Course Title: Earth Science II Hon

Grade Level(s): 10-12

Text: Pearson-Earth Science- Tarbuck, Lutgens, Tasa 14th Edition

Course Description

The goal of the Earth Science curriculum is to use students' natural curiosity to connect and relate them to the world around them and the forces at play to build up and wear down the Earth's surface--Earth is dynamic. The foundation of the course is an extension of the fundamentals learned in the physical science survey course in understanding of the geosphere and atmosphere and how these separate systems are also related. A key component is the human connection to these spheres and the relevance to every human alive today. This includes but is not limited to practical application to develop resources, study human impact, plan for dangerous events, and how and why Earth changes over time in the context of Earth as a whole with an emphasis on the United States and Pennsylvania. Most of the topics addressed fall into the composition, history and the forces at work to create and maintain our dynamic Earth and where humans fit in.

Essential Questions & Competencies

Essential Questions:

1. How do Earth's processes and human activities affect each other?
2. How do humans impact or utilize Earth and its processes?
3. How and why is Earth constantly changing?
4. What is the universe and what is Earth's place in it?
5. How are the interactions among Earth's systems measured?
6. How is the internal structure of the Earth organized and classified?
7. In what ways do changes in the atmosphere affect Earth?

Competencies:

1. Identify the roles that reservoirs and water transfer play in weather, climate variation and temperature moderation.
2. Determine how technology is used to gather, monitor, and predict Earth's changing surface and internal composition.
3. Understand how Earth's systems and cycles are driven by energy.

4. Describe the processes that cause the movement of materials throughout the earth's systems
5. Analyze Earth's dynamic interacting systems and how the transfer of energy contributes to global processes such as storms, winds, and currents.
6. Analyze the impact of modern technology on the study of the earth and its place in the universe.
7. Describe the processes that cause the movement of materials throughout the earth's systems.
8. Design and implement investigations to study the effects of physical and chemical processes on the structure of rocks.
9. Create concept maps illustrating relationships among weather systems, solar systems, and ocean systems
10. Explain the origin and composition of the solar system and universe
11. Relate plate tectonics to both slow and rapid change to the Earth's surface.
12. Analyze the effects of the environment and Earth's cycles (carbon, nitrogen, phosphorus..) from using renewable and nonrenewable energy and mineral resources
13. Explain how the evolution of Earth has been driven by interactions between the hydrosphere, lithosphere, atmosphere and biosphere.
14. Explain the processes of the hydrologic cycle.
15. Explain the dynamics of the ocean currents and their relationship to global circulations.
16. Interpret meteorological data to describe or predict weather.
17. Interpret and create models of the Earth's physical features in various mapping representations.
18. Relate constancy and change to the hydrologic and geochemical cycles.
19. Apply appropriate scales to illustrate major events through geologic time.
20. Describe factors that contribute to global climate change.
21. Explain gravity and its role in planetary orbits.
22. Explore scientific theories relative to formation of Earth, Sun and other planets.
23. Explain scale used to measure the sizes of stars and galaxies and the distances between them.
24. Interpret how systems thinking applies logic and creativity in complex real-life problems.
25. Compare and contrast how the use of technology involves weighing the trade-offs between the positive and negative effects.
26. Demonstrate how humans devise technologies to reduce the negative consequences of other technologies.
27. Illustrate the concept that not all problems are technological and that not all problems can be solved using technology.
28. Synthesize data, analyze trends, and draw conclusions regarding the effect of technology on the individual, society and the environment.
29. Compare and contrast how the engineering design and management of agricultural systems require knowledge of artificial ecosystems and the effects of technological development of flora and fauna.
30. Compare and contrast the major forms of energy: thermal, radiant, electrical, mechanical, chemical, nuclear, and others.
31. Interpret data from fossil records relevant to the theory of evolution.
32. Predict properties of elements using trends of the periodic table (allow water to support life)

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Course Syllabus

Course Content	Tentative Timeframe	State Standards
Chapter 1: introduction to Earth Science/Earth as a System Theory/Law	1 week	3.3.10.A1. 3.3.10.A2. 3.3.10.A3. 3.3.10.A4. 3.3.10.A5. 3.4.10.A2.
Chapter 2: Matter and Minerals Review Identification/Composition	2 days	3.3.10.A1. 3.2.10.A1.
Chapter 3: Rocks Review Rock cycle	2 days	3.3.10.A1. 3.3.10.A4. 3.3.10.A7.
Chapter 4: Energy Resources Fossil fuels/Nonrenewable Resources Renewable Resources Hydraulic Fracturing Mineral resources Impact Resource Recovery	3 weeks	3.3.10.A1. 3.3.10.A2. 3.3.10.A4. 3.3.10.A7. 3.4.10.A2. 3.4.10.B1. 3.4.10.B2. 3.4.10.C3. 3.4.10.D3. 3.4.10.E3.
Chapter 5: Rock Record Unconformities Applying Geologic Principles Radiometric Dating	1 week	3.3.10.A1. 3.3.10.A7. 3.1.10.C3.
Chapter 6: Earth's History/Geologic Time Evolution/Change over time -life -Earth features and characteristics	1 week	3.3.10.A1. 3.3.10.A3. 3.3.10.A7. 3.3.10.B1. 3.3.10.B2. 3.1.10.C3.
Chapter 7: Plate Tectonics/Earthquakes/Deformation of Crust Layers and composition Sea-floor spreading Mountains Earthquakes and volcanoes	3 weeks	3.3.10.A1. 3.3.10.A3. 3.3.10.A4. 3.3.10.A7.

Progression of human understanding and interpretation of features		
Chapter 8: Weathering and Erosion/Soil Water/Water Cycle Ground water Process Rates	3 weeks	3.3.10.A1. 3.3.10.A3. 3.3.10.A4. 3.3.10.A5. 3.3.10.A6. 3.3.10.A7.
Chapter 9: Atmosphere Extension from Physical Science: Composition Pressure Layers	2 weeks	3.3.10.A4. 3.4.10.E3. 3.2.10A1.
Chapter 10: Weather/Climate Oceans Heat transfer Wind Precipitation Air Masses and Fronts	2 weeks	3.3.10.A4. 3.3.10.A5. 3.3.10.A6. 3.3.10.A7. 3.4.10.E3. 3.2.10.A1.
Chapter 11: Solar System Introduction to Astronomy: Our place in the Universe	1 week	3.3.10.A4. 3.3.10.B1. 3.3.10.B2. 3.4.10.E2. 3.2.10A1.

Teaching Strategies Utilized

Technology in many forms throughout many parts of the learning process from inquiry to sharing of ideas to submitting work and open frequent communication with teacher using Canvas

Cooperative learning Guided discovery Data collection Mapping Visualizing Inquiry Debate Summarizing	Research Simulations Demonstration Labs Application Peer discussion/dialogue Peer evaluations	Graphical and model interpretation Critical reading/Thinking Interactive media Concept mapping Notes Diagnostic, formative summative testing
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Objectives	Level of Ach.	Suggested Learning Activities	Forms of Assessment	Assess. Anchor	PA Stand.
<i>The student will be able to:</i> Matter and Minerals		Lab activity	Quizlet/ Quizizz/ Kahoot		3.3.10.A1.
<i>Define Mineral</i>	M	Teacher demonstration	Discussion Based Bell Ringer		3.2.10.A1.
<i>Explain mineral distribution</i>	M	Interactive media	Exit tickets		
<i>Collecting scientific observations</i>	M	Peer discussion	Homework		
<i>Summarize importance of Periodic Table of elements</i>	AP	Class discussion	Canvas Submissions		
<i>Explain atoms and elements as they pertain to minerals</i>	AP	Kahoot/Quizlet/Quizizz	Exit tickets		
<i>Explain mineral formation</i>	M	Bell Ringers	Teacher Designed Worksheets		
<i>Identify minerals through accepted scientific tests with specific procedures</i>	M	Outline/notes Diagramming Critical reading Controlled research Lab Activity Concept Mapping	Chapter Test Cumulative Work		
Resources/Materials					
Text, Teacher created reading, Current articles, Worksheets, iPads, Streak plates, Mineral samples, Hand lens, Diluted HCL, Density kit, Beakers, Digital scale, Class models					
Interdisciplinary Relationships					
Math- Specific Gravity Calculations					

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<i>The student will be able to:</i>		Teacher demonstration	Quizlet/ Quizizz/ Kahoot		3.3.10.A1.
Introduction to Earth Science		Interactive media			3.3.10.A2.
<i>Describe the boundaries of scientific study and recall/create examples of things that fall within and outside the realm of science.</i>	AP	Peer discussion Class discussion	Discussion Based Bell Ringer		3.3.10.A3. 3.3.10.A4.
<i>Apply examples of natural vs supernatural</i>	AP	Kahoot/Quizizz/Quizlet	Exit tickets		3.3.10.A5.
<i>Describe goals of science</i>	M	Exit tickets	Homework		3.4.10.A2.
<i>Apply the scientific method to science and data collection</i>	M	Bell Ringers Guided discovery	Canvas Submissions		
<i>Research and evaluate the validity of information found on the Internet</i>	M	Outline/notes	Teacher Designed Worksheets		
<i>Explain and apply scientific theory and law using Newton's Law of Universal Gravitation and Einstein's Theory of General Relativity.</i>	M	Diagramming Critical reading	Chapter Test		
<i>Describe interconnection of Earth's 4 spheres.</i>	M	Controlled research	Cumulative Work		
<i>Apply how science affects society</i>	M	Peer evaluations			
<i>Describe Earth's size, shape, composition, and place in the universe.</i>	AP	Lab Activity			
<i>Describe composition and structure of Earth's interior</i>	AP				
<i>Compare open and closed systems</i>	M				
<i>Explain Earth's 'Energy Budget'</i>	AP				
<i>Summarize energy transfer</i>	AP				
<i>Summarize and explain carbon, nitrogen, phosphorus cycle.</i>	M				
Resources/Materials					
Text, Teacher created reading, Current articles, Worksheets, iPads, Water quality testing materials					
Interdisciplinary Relationships					
Information literacy, ICT, Critical Thinking and Problem Solving, Global Awareness					

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<i>The student will be able to:</i>		Misconception Check	Quizlet/ Quizizz/ Kahoot	3.3.10.A1.
Rocks		Concept mapping		3.3.10.A4.
<i>Identify the 3 major groups of rocks</i>	M	Lab activity	Discussion Based	3.3.10.A7.
<i>Identify and classify rocks according to their characteristics</i>	M	Teacher demonstration	Bell ringer	
<i>Describe how igneous rocks are formed and identified using cooling rate and composition</i>	M	Interactive media	Exit tickets	
<i>Explain Bowen's Reaction Series</i>	AP	Peer discussion	Homework	
<i>Describe how new land forms</i>	M	Class discussion	Canvas Submissions	
<i>Describe how 3 types of sedimentary rocks are formed and identified</i>	M	Kahoot/quizlet/quizizz	Debate	
<i>Describe how metamorphic rocks are formed and identified</i>	M	Exit tickets	Teacher Designed Worksheets	
<i>Distinguish between contact/regional and foliated/nonfoliated</i>	M	Bell Ringers	Teacher Designed Labs	
<i>Explain how 3 types of rocks are used based on their characteristics</i>	M	Outline/notes	Chapter Test	
<i>Identify notable rock landforms/features</i>	M	Diagramming	Cumulative Work	
<i>Summarize factors that affect rock stability</i>	AP	Critical reading		
<i>Research man's impact on Earth's surface as it pertains to human activities and the rock cycle</i>	R	Controlled research		
<i>Describe the rock cycle</i>	M	Lab Activity		
		Current research		
Resources/Materials				
Text, Rock samples, Dilute HCl, Multimedia resources, Current articles, Charts/Visuals				
Interdisciplinary Relationships				
Technology/ICT, Environmental literacy, Math and Graphical Interpretation, Reading				

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<i>The student will be able to:</i>		Lab activity	Quizlet/ Quizizz/ Kahoot	Bio.B.4.1.1. Bio.B.4.2.3 Bio.B.4.2.4 Bio.B.4.2.5	3.3.10.A1.
Energy and Resources		Teacher demonstration			3.3.10.A2.
<i>Recognize human reliance on Earth's resources for necessities and luxuries</i>	AP	Interactive media	Discussion Based	Bio.B.4.1.2 Bio.B.4.2.2.	3.3.10.A4.
<i>Explain ore and various mining techniques</i>	AP	Peer discussion	Bell ringer		3.3.10.A7.
<i>Explore detrimental effects of unregulated mining</i>	AP	Class discussion	Exit tickets		3.4.10.A2.
<i>Compare mining practices and regulations in the United States vs. developing countries</i>	AP	Kahoot/Quizizz/Quizlet	Homework		3.4.10.B1.
<i>Explain renewable vs. nonrenewable energy sources</i>	M	Exit tickets	Canvas Submissions		3.4.10.B2.
<i>Research and report on various energy sources</i>	M	Bell Ringers	Debate		3.4.10.C3.
<i>Explain various renewable and nonrenewable energy sources</i>	M	Outline/notes	Teacher Designed Worksheets		3.4.10.D3.
<i>Explain energy transfer as it relates to electricity production</i>	AP	Diagramming	Chapter Test		3.4.10.E3.
<i>Measure waste vs energy potential in various energy sources</i>	M	Critical reading	Cumulative Work		
<i>Measure types of energy consumption in the US</i>	M	Controlled research	Peer Evaluations		
<i>Case study hydraulic fracturing in Pennsylvania</i>	M	Lab Activity			
<i>Apply technology and policy to real life scenarios involving environmental damage from recovery and use of resources and remediation of damaging effects in the US</i>	M	Current research			
<i>Rate various energy sources and choose optimal sources or combinations</i>	M	Debate			
<i>Design energy efficient scenarios</i>	M	Energy database use			
<i>Debate best energy sources</i>	M	Report			
<i>Design energy efficient scenarios</i>	R	Video documentary			
		Blueprint design			
		Case study			
		Board Rotation			

Resources/Materials
Current Articles, Current video of real-life scenarios, Text, Internet simulations, Government databases, Teacher designed webquest, Teacher created visuals
Interdisciplinary Relationships
Graphical interpretation, Creativity and innovation, Critical thinking and problem solving, Communication and collaboration, Information and Media literacy, ICT, Initiative and self-direction, Social skills, Productivity and accountability, Global awareness, Environmental literacy

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<i>The student will be able to:</i>		Lab Activity	Quizlet/ Quizizz/ Kahoot	3.3.10.A1.
Rock Record		Teacher Demonstration		3.3.10.A7.
<i>Compare Catastrophism to Uniformitarianism</i>	AP	Interactive Media	Discussion Based Bell ringer	3.1.10.C3.
<i>Explain how Law of superposition can be used to determine relative age of rocks</i>	AP	Peer Discussion	Exit tickets	
<i>Compare the 3 types of unconformities</i>	AP	Class Discussion	Homework	
<i>Apply the laws of Original Horizontality, Lateral Continuity, and Cross-Cutting Relationships to determine the relative age of rocks</i>	AP	Kahoot/Quizizz/Quizlet	Canvas Submissions	
<i>Describe the formation of varves and the application and limitations to determining relative age.</i>	M	Exit Tickets	Debate	
<i>Explain how radioactive decay can be used to help determine the absolute age of rocks</i>	M	Bell Ringers	Teacher Designed Worksheets	
<i>Describe 4 types of fossilization</i>	AP	Outline/Notes	Chapter Test	
<i>Identify and compare trace fossils</i>	AP	Diagramming	Cumulative Work	
<i>Describe how index fossils can be used to determine relative age</i>	AP	Critical Reading	Peer evaluations	
	M	Controlled research		
		Lab Activity		
		Current Research		
		Discussions/Debate		
		Report		
		Case study		
		Selected video		
Resources/Materials				
Text, Lab equipment and samples, Internet resources, Current articles, Teacher created visuals				
Interdisciplinary Relationships				
Creativity and Innovation, Critical Thinking and Problem Solving, Communication and Collaboration, ICT, Information Literacy, Social and Cross Cultural Skills, Productivity and Accountability, Graphical Interpretation				

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<i>The student will be able to:</i>		Misconception Check	Quizlet/ Quizizz/ Kahoot	3.3.10.A1.
Earth's History/Geologic Time		Lab Activity		3.3.10.A3.
<i>Describe the Geologic Column</i>	AP	Teacher Demonstration	Discussion Based Bell ringer	3.3.10.A7.
<i>List the major divisions of geologic time</i>	AP	Interactive Media	Exit tickets	3.3.10.B1.
<i>Summarize how Evolution is related to geologic change</i>	AP	Peer Discussion	Homework	3.3.10.B2.
<i>Interpret fossil data as it pertains to Evolution</i>	AP	Class Discussion	Canvas Submissions	3.1.10.C3
<i>Apply appropriate scale to illustrate major events through Geologic Time</i>		Exit Tickets	Debate	
<i>Identify two characteristics of Precambrian rock</i>	M	Bell Ringers	Teacher Designed Worksheets	
<i>Describe major developments during the Cenozoic, Mesozoic, and Paleozoic eras</i>	AP	Outline/Notes	Chapter Test	
<i>Explain plausible various extinction events and evaluate supporting physical evidence supporting each</i>	M	Diagramming	Cumulative Work	
<i>Describe factors that contribute to global climate change</i>	AP	Critical Reading	Peer evaluations	
<i>Explain the physical evidence on Earth's surface to support Pangaea</i>	M	Controlled Research		
		Lab Activity		
		Current Research		
		Discussions		
		Report		
		Case Study		
		Selected Video		
Resources/Materials				
Text, Lab equipment and samples, Internet resources, Current articles, Teacher created visuals				
Interdisciplinary Relationships				
Creativity and Innovation, Critical Thinking and Problem Solving, Communication and Collaboration, ICT, Information Literacy, Social and Cross Cultural Skills, Productivity and Accountability, Graphical Interpretation				

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<i>The student will be able to:</i>		Cumulative Mapping	Quizlet/ Quizizz/ Kahoot	3.3.10.A1.
Plate Tectonics Earthquakes/Deformation of Crust		Research		3.3.10.A3.
<i>Summarize Continental Drift</i>	M	Peer Collaboration	Discussion Based Bell ringer	3.3.10.A4.
<i>Conduct class model of Sea-Floor Spreading illustrating paleomagnetism's supporting evidence</i>	M	Database Extraction and Utilization	Exit tickets	3.3.10.A7.
		Simulations	Homework	
<i>Summarize Theory of Plate Tectonics</i>	M	Interactive Media	Canvas Submissions	
<i>Identify facts and location of significant tectonic events such as earthquakes and tsunamis.</i>	AP	Selected Video	Debate	
		Class Discussion	Teacher Designed Worksheets	
<i>Interpret earthquake data bases to retrieve and track real time earthquake events</i>	M	Forced Debate		
<i>Report on several notorious case studies relating to tectonic events</i>	AP		Chapter Test	
<i>Conduct experiment modeling isostasy</i>	AP		Cumulative Work	
<i>Conduct experiment modeling elastic rebound</i>	AP		Peer evaluations	
<i>Describe earthquake measurement</i>	AP			
<i>Calculate the epicenter of notorious earthquakes</i>	M			
<i>Explain magma compositions and resulting eruptions</i>	AP			
<i>Describe 3 types of volcanoes</i>	AP			
Resources/Materials				
Text, Lab equipment and samples, Internet resources, Current articles, Teacher created visuals				
Interdisciplinary Relationships				
Graphical analysis, Map reading (latitude longitude), Global Awareness, Environmental Literacy, Productivity and Accountability, Initiative and Self Direction, ICT				

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<i>The student will be able to:</i>		Mapping	Quizlet/ Quizizz/ Kahoot	3.10.A1. 3.10.A3. 3.10.A4.
<i>Weathering and Erosion/ Soil</i>		Teacher demonstration		3.10.A5. 3.10.A6. 3.10.A7.
<i>Compare chemical and mechanical weathering</i>	AP	Interactive media	Discussion Based Bell ringer	
<i>Compare weathering and erosion</i>	AP	Simulations	Exit tickets	
<i>Categorize weathering examples around CHS campus</i>	M	Class discussion	Homework	
<i>Relate weathering rate to rock composition</i>	M	Kahoot	Canvas Submissions	
<i>Demonstrate how surface area impacts weathering rates</i>	M	Exit tickets	Debate	
<i>Summarize role ocean currents play in climate</i>	AP	Bell Ringers	Teacher Designed Worksheets	
<i>Respond to climate zone mapping</i>	AP	Outline/notes	Chapter Test	
<i>Predict weathering rates relative to climate</i>	M	Diagramming	Cumulative Work	
<i>Summarize how soil forms</i>	M	Critical reading	Peer Evaluations	
<i>Describe 5 soil forming factors</i>	M	Controlled research		
<i>Demonstrate mature soil horizons</i>	M	Lab Activity		
<i>Demonstrate mature soil horizons</i>	AP	Current research		
<i>Apply soil formation factors to regional soil type database</i>	M	Database interpretation		
<i>Predict soil variations within local climate zone</i>	R	Report		
<i>Formulate soil conservation measures</i>	R	Case study		
<i>Inspect soil textures and categorize according Soil Texture Triangle</i>	M	Selected video		
<i>Describe landforms according to their mode of creation (constructive/destructive)</i>	M			
Resources/Materials				
Text, Lab equipment and samples, Internet resources, Current articles, Teacher created visuals				
Interdisciplinary Relationships				
Graphical Analysis, Map Reading (latitude longitude), Global Awareness, Environmental Literacy, Productivity and Accountability, Initiative and Self Direction, ICT				

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<i>The student will be able to:</i> Atmosphere			Quizlet/ Quizizz/ Kahoot	3.3.10.A4.
<i>Describe the characteristics of composition of the atmosphere</i>	AP	Teacher demonstration		3.4.10.E3.
<i>Map the atmosphere</i>	M	Interactive media	Discussion Based Bell Ringer	3.2.10A1.
<i>Construct visual explanation of air pressure</i>	M	Simulations	Exit Tickets	
<i>Demonstrate ways to measure air pressure</i>	M	Class discussion	Homework	
<i>Categorize parts of the atmosphere according to their potential to trap heat and impact surface temperature</i>	R	Kahoot/Quizlet/Quizizz	Canvas Submissions	
<i>Research sources of various atmospheric components</i>	M	Exit tickets	Debate	
<i>Establish and theorize connections between human activity and atmospheric composition changes.</i>	M	Bell Ringers	Teacher Designed Worksheets	
<i>Demonstrate Coriolis Effect</i>	R	Outline/notes	Chapter Test	
<i>Evaluate validity of collected data (direction your toilets/sinks rotate)</i>	M	Diagramming	Cumulative Work	
	R	Critical reading	Peer evaluations	
		Controlled research		
		Lab Activity		
		Current research		
		Database interpretation		
		Case study		
		Selected video		
Resources/Materials				
Text, Lab equipment and samples, Internet resources, Current articles, Teacher created visuals				
Interdisciplinary Relationships				
Graphical Analysis, Map Reading (latitude longitude), Global Awareness, Environmental Literacy, Productivity and Accountability, Initiative and Self Direction, ICT				

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<i>The student will be able to:</i>		Mapping	Quizlet/ Quizizz/ Kahoot	3.3.10.A4.
<i>Weather and Climate</i>		Teacher demonstration		3.3.10.A5.
<i>Describe energy and change in phase</i>	AP	Interactive media	Discussion Based Bell ringer	3.3.10.A6.
<i>Demonstrate dew point</i>	M	Simulations	Exit tickets	3.3.10.A7.
<i>Identify 4 forms of precipitation</i>	M	Class discussion	Homework	3.4.10.E3.
<i>Identify 3 kinds of clouds</i>	M	Kahoot	Canvas Submissions	3.2.10A1.
<i>Explain formation of air masses</i>	M	Exit tickets		
<i>Describe pressure gradients and wind creation</i>	M	Bell Ringers	Debate	
<i>Identify local and global winds</i>	M	Outline/notes	Teacher Designed Worksheets	
<i>Describe the oceans impact on climate</i>	K	Diagramming	Chapter Test	
<i>Describe development of thunderstorms</i>	AP	Critical reading	Cumulative Work	
<i>Explain types of weather models and forecasting</i>	K	Controlled research		
<i>Describe cold and warm fronts</i>	AP	Lab Activity	Peer evaluations	
<i>Interpret collected data to predict the weather</i>	M	Current research		
<i>Create a weather map</i>	M	Database interpretation Case study Selected video		
Resources/Materials				
Text, Lab equipment and samples, Internet resources, Current articles, Teacher created visuals				
Interdisciplinary Relationships				
Graphical Analysis, Map Reading (latitude longitude), Global Awareness, Environmental Literacy, Productivity and Accountability, Initiative and Self Direction, ICT				

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<i>The student will be able to:</i>		Teacher demonstration	Quizlet/ Quizizz/ Kahoot	3.3.10.A4.
<i>Solar System</i>		Interactive media		3.3.10.B1.
<i>Summarize Earth's rotation and revolution provides basis for measuring time</i>	M	Simulations	Discussion based Bell ringer	3.3.10.B2.
<i>Explain tilt of Earth's axis and movement causes seasons</i>	M	Class discussion Kahoot	Exit tickets	3.4.10.E2.
<i>Explain Nebular Hypothesis of the origin of the solar system</i>	AP	Exit tickets	Homework	3.2.10A1.
<i>Summarize Kepler's 3 laws of planetary motion</i>	AP	Bell Ringers	Canvas submissions	
<i>Summarize features that allow Earth to have life</i>	M	Outline/notes	Debate	
<i>Explain movements of the moon and effects on Earth</i>	M	Diagramming	Teacher Designed Worksheets	
<i>Summarize Big Bang Theory</i>	AP	Critical reading	Chapter Test	
<i>Summarize life cycle of stars</i>	AP	Controlled research	Cumulative Work	
		Lab Activity	Peer Evaluations	
		Current research		
		Database interpretation		
		Selected video		
Resources/Materials				
Text, Lab equipment and samples, Internet resources, Current articles, Teacher created visuals				
Interdisciplinary Relationships				
Graphical Analysis, Map Reading (latitude longitude), Global Awareness, Environmental Literacy, Productivity and Accountability, Initiative and Self Direction, ICT				