

**ENVIRONMENTAL SCIENCE
CURRICULUM MAP
SAUGUS HIGH SCHOOL**

Week 1		Week 2	
<p align="center">Performance Standards</p> <p><i>The students will:</i> N/A</p>		<p align="center">Performance Standards</p> <p>Earth Science 3.4: Explain how water flows into and through a watershed. Explain the roles of aquifers, wells, porosity, permeability, water table, and runoff.</p> <p>Earth Science 3.6: Describe the rock cycle, and the processes that are responsible for the formation of igneous, sedimentary, and metamorphic rocks. Compare the physical properties of these rock types and the physical properties of common rock-forming minerals.</p>	
<p align="center">Unit/Topic./Lesson</p> <p>Studying Earth Introduction to environmental science. Planet Earth</p>		<p align="center">Unit/Topic./Lesson</p> <p>Studying Earth Planet Earth Planet of Life</p>	
<p align="center">Objectives (Students Will...)</p> <p>Locate Earth in a diagram of the solar system Identify and Describe the regions of Earth in which living things are found Describe the three main types of rock that make up the lithosphere Explain why fresh water is a valuable resource for organisms</p>	<p align="center">Essential Question</p> <p>What is environmental science?</p>	<p align="center">Objectives (Students Will...)</p> <p>Diagram the layers of the atmosphere Identify and Describe the regions of Earth in which living things are found Describe the regions of the biosphere Explain how organisms interact with the biosphere</p>	<p align="center">Essential Question</p> <p>What characteristics of earth enable it to support life?</p>
<p align="center">Teacher Resources</p> <ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 1 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<p align="center">Media/Technology Resources</p> <ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's 	<p align="center">Teacher Resources</p> <ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 1 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<p align="center">Media/Technology Resources</p> <ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - A Civil Action or - Erin Brockovich
<p align="center">Assessment Activities</p> <p>Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completion date:</p> <p>Completed by:</p> <p>Comments</p>	<p align="center">Assessment Activities</p> <p>Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completion date:</p> <p>Completed by:</p> <p>Comments</p>

Week 3	
Performance Standards	
<p>Earth Science 3.4: Explain how water flows into and through a watershed. Explain the roles of aquifers, wells, porosity, permeability, water table, and runoff.</p> <p>Earth Science 3.6: Describe the rock cycle, and the processes that are responsible for the formation of igneous, sedimentary, and metamorphic rocks. Compare the physical properties of these rock types and the physical properties of common rock-forming minerals.</p>	
Unit/Topic./Lesson	
Earth's Land and Water The Atmosphere The Biosphere	
Objectives (Students Will...)	Essential Question
<p>Diagram the layers of the atmosphere</p> <p>Identify and Describe the regions of Earth in which living things are found</p> <p>Describe the regions of the biosphere</p> <p>Explain how organisms interact with the biosphere</p>	What characteristics of earth enable it to support life?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 1 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's - <i>Shaping Earth</i>
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completed by:</p> <p>Comments</p>

Week 4	
Performance Standards	
<p>Earth Science 3.1: Explain how physical and chemical weathering leads to erosion and the formation of soils and sediments, and creates various types of landscapes. Give examples that show the effects of physical and chemical weathering on the environment.</p> <p>Earth Science 3.6: Describe the rock cycle, and the processes that are responsible for the formation of igneous, sedimentary, and metamorphic rocks. Compare the physical properties of these rock types and the physical properties of common rock-forming minerals.</p> <p>Earth Science 3.8: Trace the development of a lithospheric plate from its growth at a divergent boundary (mid-ocean ridge) to its destruction at a convergent boundary (subduction zone). Recognize that alternating magnetic polarity is recorded in rock at mid-ocean ridges.</p> <p>Earth Science 3.9: Explain the relationship between convection currents in Earth's mantle and the motion of the lithospheric plates.</p> <p>Earth Science 3.10: Relate earthquakes, volcanic activity, tsunamis, mountain building, and tectonic uplift to plate movements</p>	
Unit/Topic./Lesson	
Changes in the Biosphere The Changing Environment	
Objectives (Students Will...)	Essential Question
<p>Describe ways in which the three layers of the biosphere change over time</p>	Describe how ice ages are related to changes in the lithosphere, hydrosphere, and atmosphere?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 3 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's - <i>Too Hot Not to Handle</i>
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completed by:</p> <p>Comments</p>

Week 5	
Performance Standards	
<p>Earth Science 3.1: Explain how physical and chemical weathering leads to erosion and the formation of soils and sediments, and creates various types of landscapes. Give examples that show the effects of physical and chemical weathering on the environment.</p> <p>Earth Science 3.6: Describe the rock cycle, and the processes that are responsible for the formation of igneous, sedimentary, and metamorphic rocks. Compare the physical properties of these rock types and the physical properties of common rock-forming minerals.</p> <p>Earth Science 3.8: Trace the development of a lithospheric plate from its growth at a divergent boundary (mid-ocean ridge) to its destruction at a convergent boundary (subduction zone). Recognize that alternating magnetic polarity is recorded in rock at mid-ocean ridges.</p> <p>Earth Science 3.9: Explain the relationship between convection currents in Earth's mantle and the motion of the lithospheric plates.</p> <p>Earth Science 3.10: Relate earthquakes, volcanic activity, tsunamis, mountain building, and tectonic uplift to plate movements</p>	
Unit/Topic./Lesson	
Changes in the Biosphere The Changing Environment	
Objectives (Students Will...)	Essential Question
Describe ways in which the three layers of the biosphere change over time	Is Global warming a man made phenomenon?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 3 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completed by:</p> <p>Comments</p>

Week 6	
Performance Standards	
<p>Biology 6.2: Analyze changes in population size and biodiversity (speciation and extinction) that result from the following: natural causes, changes in climate, human activity, and the introduction of invasive, non-native species.</p>	
Unit/Topic./Lesson	
Changes in the Biosphere Needs of Organisms The Ecosystem	
Objectives (Students Will...)	Essential Question
<p>List factors that affect an area's ability to support life</p> <p>Predict how changes in the environment might affect organisms</p> <p>Describe the structure of an ecosystem</p> <p>Relate the concept of habitat destruction to the loss of biodiversity</p>	Why don't humans have a territorial range like other animals?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 3 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p> <p>TEST: Chapter 3</p>	<p>Completed by:</p> <p>Comments</p>

Week 7	
Performance Standards	
<p>Biology 6.3: Use a food web to Identify and distinguish producers, consumers, and decomposers, and Explain the transfer of energy through trophic levels. Describe how relationships among organisms (predation, parasitism, competition, commensalism, and mutualism) add to the complexity of biological communities.</p> <p>Earth Science 2.2: Describe the effects on the environment and on the carbon cycle of using both renewable and nonrenewable sources of energy.</p> <p>Earth Science 3.2: Describe the carbon cycle.</p> <p>Earth Science 3.3: Describe the nitrogen cycle.</p>	
Unit/Topic./Lesson	
Ecological Interactions Matter and Energy in the Ecosystem Roles of Living Things Ecosystem Structure	
Objectives (Students Will...)	Essential Question
<p>Identify the roles of producers, consumers, and decomposers</p> <p>Explain the concept of trophic level</p> <p>Describe food chains and food webs</p> <p>Examine how ecosystem structure is related to population changes and the transfer of pollutants</p>	What are food chains and food webs, and how are they related?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 4 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completed by:</p> <p>Comments</p>

Week 8	
Performance Standards	
<p>Earth Science 3.4: Explain how water flows into and through a watershed. Explain the roles of aquifers, wells, porosity, permeability, water table, and runoff.</p> <p>Earth Science 3.5: Describe the processes of the hydrologic cycle, including evaporation, condensation, precipitation, surface runoff and groundwater percolation, infiltration, and transpiration.</p> <p>Biology 1.1: Recognize that biological organisms are composed primarily of very few elements. The six most common are C, H, N, O, P, and S.</p> <p>Biology 6.4: Explain how water, carbon, and nitrogen cycle between abiotic resources and organic matter in an ecosystem, and how oxygen cycles through photosynthesis and respiration.</p>	
Unit/Topic./Lesson	
Ecological Interactions Matter and Energy in the Ecosystem Energy in the Ecosystem Cycles of Matter	
Objectives (Students Will...)	Essential Question
<p>Investigate the movement of energy through an ecosystem</p> <p>Define ecological pyramid, and Explain its relationship to energy in an ecosystem</p> <p>Describe the chemical composition of the human body</p> <p>Explain the carbon, nitrogen and water cycles</p>	What is an ecological pyramid?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 4 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completed by:</p> <p>Comments</p>

Week 9	
Performance Standards	
Biology 5.3: Explain how evolution through natural selection can result in changes in biodiversity through the increase or decrease of genetic diversity within a population.	
Unit/Topic./Lesson	
Interactions in the Ecosystem Habitats and Niches	
Objectives (Students Will...)	Essential Question
Describe the concept of the niche Examine how interactions between a species and its environment Define a species' niche	How is a niche different from a habitat?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 5 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.	Completed by: Comments

Week 10	
Performance Standards	
Biology 5.3: Explain how evolution through natural selection can result in changes in biodiversity through the increase or decrease of genetic diversity within a population.	
Unit/Topic./Lesson	
Interactions in the Ecosystem Evolution and Adaptation Population	
Objectives (Students Will...)	Essential Question
Explain how a species adapts to its niche Describe convergent evolution and co-evolution, and Relate each to the concept of niche Explain how populations of organisms grow Describe the factors that limit the growth of a population Identify the shapes of growth curves that represent populations of different organisms.	Why are humans still exhibiting exponential growth?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 5 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.	Completed by: Comments

Week 11	
Performance Standards	
Biology 6.1: Explain how birth, death, immigration, and emigration influence population size.	
Unit/Topic./Lesson	
Ecosystem Balance Relationships in the Ecosystem Ecological Succession / Climax community	
Objectives (Students Will...)	Essential Question
Explain the relationship between the population sizes of prey and predator Define symbiosis and Describe several symbiotic relationships. Contrast primary and secondary succession Describe the sequence of ecological succession in a lake or on an island	What processes link the sizes of predator and prey populations?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 6 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - <i>Life After People</i>
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: - Predator/Prey Owl/Mice Quiz: Given at the end of the week on all introduced topics and concepts. TEST: Chapter 4, 5, 6	Completed by: Comments

Week 12	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
Desert and Tundra Biomes Deserts Formation of Deserts Tundra	
Objectives (Students Will...)	Essential Question
Describe the characteristics of a desert Explain how desert organisms are adapted to live in their environment Illustrate the processes that cause deserts to form Describe why the characteristics of the tundra make it a fragile ecosystem Compare the characteristics of tundra organisms with those of their relatives in warmer climates	Is a pipeline for oil worth the environmental risks associated with it?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 7 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - Planet Earth: <i>Deserts</i>
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.	Completed by: Comments

Week 13	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
Grassland Biomes Grasslands	
Objectives (Students Will...)	Essential Question
Describe the characteristics of grasslands Identify where grasslands are Located	What are the biotic and abiotic factors that affect the growth of grasslands?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 8 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - Planet Earth: <i>Great Plains</i>
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.	Completed by: Comments

Week 14	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
Grassland Biomes Steppes and Prairies Savannas	
Objectives (Students Will...)	Essential Question
Compare and Contrast a steppe and a prairie Describe the importance of steppes and a prairies in agriculture Describe savannas and state where they are Located Explain how organisms have adapted to survive on the savanna	Why are prairies known as the “breadbaskets” of the world?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 8 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.	Completed by: Comments

Week 15	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
Forest Biomes Coniferous Forests	
Objectives (Students Will...)	Essential Question
Describe the characteristics of the coniferous forest Explain adaptations that enable organisms to survive in coniferous forests	What characterizes a coniferous forest?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 9 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - Planet Earth: <i>Seasonal Forests</i>
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts.	Completed by:
	Comments

Week 16	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
Forest Biomes Deciduous Forests Rain Forests	
Objectives (Students Will...)	Essential Question
Identify the characteristics of the deciduous forest Describe the organisms that inhabit deciduous forests Describe the characteristics of the tropical zone and of the rain forest Illustrate the complexity and diversity of the rainforest system	What are the main causes of tropical rain forest de-forestation?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 9 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - Planet Earth: <i>Jungles</i>
Assessment Activities	Completion date:
Homework: To be Given daily on each introduced topic. Lab/ Lab Report: Quiz: Given at the end of the week on all introduced topics and concepts. TEST: Chapter 7, 8, 9	Completed by:
	Comments

Week 17	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
Freshwater Biomes Aquatic Biomes Standing Water Ecosystems Flowing Water Ecosystems	
Objectives (Students Will...)	Essential Question
<p>Describe the factors that characterize the various types of aquatic biomes</p> <p>Identify the characteristics of different types of standing water ecosystems</p> <p>Explain the value of wetlands and the reason for their decline</p> <p>Describe how abiotic factors of gravity, erosion, and sedimentation affect stream ecosystems</p>	What are the characteristics that describe the 5 standing freshwater ecosystems?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 10 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - Planet Earth: <i>Fresh Water</i>
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p>	<p>Completed by:</p> <p>Comments</p>

Week 18	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
The Marine Biome The World Ocean Neritic Zones Intertidal Zones	
Objectives (Students Will...)	Essential Question
<p>Locate the major ocean zones based on their relationship with the shore</p> <p>Describe the flow of water through the world ocean and the characteristics of ocean water in different parts of the world</p> <p>Describe the factors that define the neritic zone</p> <p>Compare and Contrast two types of neritic zone ecosystems</p> <p>Explain the processes that contribute to the formation of salt marshes and mangrove swamps</p> <p>List several human activities that damage intertidal habitats</p>	What are the neritic zones and why are they important as resources?
Teacher Resources	Media/Technology Resources
<ul style="list-style-type: none"> • Scott Foresman- Environmental Science Text: Chapter 11 • Enrichment/ Reinforcement W.S. • Overhead Note Packets 	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD's <ul style="list-style-type: none"> - Planet Earth: <i>Ocean Deep</i> - Planet Earth: <i>Shallow Seas</i>
Assessment Activities	Completion date:
<p>Homework: To be Given daily on each introduced topic.</p> <p>Lab/ Lab Report:</p> <p>Quiz: Given at the end of the week on all introduced topics and concepts.</p> <p>TEST: Chapter 10, 11</p>	<p>Completed by:</p> <p>Comments</p>

Week 19	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
“Green” Practices EPA Government Regulation Power point Project Lorax Project	
Objectives (Students Will...)	Essential Question
Explain how Dr. Seuss’s <i>The Lorax</i> is an account of environmental irresponsibility	What is the secret of the Lorax and how was he taken away?
Teacher Resources	Media/Technology Resources
	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD’s <ul style="list-style-type: none"> - The Lorax
Assessment Activities	Completion date: Completed by: Comments
The Lorax Packet Power point Presentation	

Week 20	
Performance Standards	
<i>The students will:</i>	
N/A	
Unit/Topic./Lesson	
“Green” Practices EPA Government Regulation Power point Project	
Objectives (Students Will...)	Essential Question
Explore and Present the current state of EPA regulations and legislation	Why does the government need to study the environment and regulate individuals and businesses?
Teacher Resources	Media/Technology Resources
	<ul style="list-style-type: none"> • Power Point Presentations • Internet labs and resources • Movies/DVD’s <ul style="list-style-type: none"> -
Assessment Activities	Completion date: Completed by: Comments
Power point Presentation	