Natural Resources
Subject Code: 010710
Course & Unit Descriptions

Course Description:

Learners will apply science principles and management practices to the protection of renewable and non-renewable natural resources. Students will learn fundamentals of land use as well as watershed, wildlife, fishery and forest management. Students will be introduced to management practices related to managing air and water quality along with requirements for managing solid and liquid waste. Communications, business principles and leadership skill development are essential to the program.

Unit: Sustainability and Waste Management

Students will identify the management practices needed to handle and process wastewater and solid waste.

Benchmark: 3.11 Research and Analysis
Level 1: Conduct a study or survey, select descriptive statistics; create graphical displays and draw conclusions.

Indicators
3.11.01 Identify research problems and structure a statistical experiment, simulation or study related to the problem
3.11.02 Create a hypothesis and set the probability of acceptance based on review of valid literature
3.11.03 Establish and implement procedures for systematic collection, organization, and use of data
3.11.08 Draw conclusions based on observations and/or data analysis and disseminate information to interested parties

Academic Standards
English: Formulate open-ended research questions suitable for inquiry and investigation and adjust questions as necessary while research is conducted. (Research A, 8-10; Research A, 11-12)
Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)
Science: Participate in and apply the processes of scientific investigation to create models and to design, conduct, evaluate and communicate the results of these investigations. (Scientific Inquiry A, 9-10)

Benchmark: 3.6 Information Management
Level 1: Select and use a computer and computer application for a specific purpose

Indicators
3.6.02 Conduct research using the Internet
3.6.03 Create and utilize documents using word processors, spreadsheets, databases and electronic mail
3.6.04 Conduct oral/visual presentation using presentation software
3.6.08 Adhere to common security guidelines for technology

Academic Standards
English: Prepare writing for publication that follows an appropriate format and uses a variety of techniques to enhance the final product. (Writing Process F, 11-12)

Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)

Benchmark: 3.7 Communication Skills
Level 1: Integrate a variety of communication techniques to gather and convey information to an individual or small group

Indicators
3.7.01 Apply techniques to participate in/facilitate a group discussion
3.7.02 Apply active listening strategies
3.7.03 Develop and deliver formal and informal presentations
3.7.05 Communicate directions in an organized manner appropriate to the audience
3.7.07 Extract relevant, valid information from materials and cite sources of information
3.7.08 Develop reports and documents that organize information accurately and use formatting techniques for user friendliness
3.7.10 Practice etiquette when using communication techniques

Academic Standards
English: Produce functional documents that report, organize and convey information and ideas accurately, foresee readers' problems or misunderstandings and that include formatting techniques that are user friendly. (Writing Applications C, 11-12)
Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)
Social Studies: Evaluate the reliability and credibility of sources. (Social Studies Skills and Methods A, 9-10)

Benchmark: 3.9 Emotional Intelligence
Level 1: Exhibit desirable personal and professional appearance, attitudes, behaviors, and work habits

Indicators
3.9.02 Identify how individual actions impact others
3.9.03 Manage personal emotions, behavior and appearance to maintain professionalism
3.9.04 Describe and exhibit appropriate ethical behavior
3.9.05 Accept and use constructive feedback to improve work habits
3.9.06 Employ appropriate coping skills to prevent/handle workplace conflicts
3.9.07 Recognize, respect and utilize the diversity among people and cultures
3.9.08 Foster positive working relationships

Academic Standards
English: Use a variety of strategies to enhance listening comprehension. (Communication A, 8-10; Communication A, 11-12)
Social Studies: Analyze how issues may be viewed differently by various cultural groups. (People in Societies A, 11-12)

Benchmark: 4.1 Safety Procedures
Level 1: Follow safety procedures in general situations with basic tools and equipment, evaluate work environment and seek assistance to rectify the problem

Indicators
4.1.01 Demonstrate knowledge of safety rules and regulations
4.1.02 Interpret safety signs and symbols
4.1.03 Model safe attitudes and behaviors (e.g., lifting, climbing)
4.1.04 Identify safety hazards and take corrective measures
4.1.05 Use safety equipment in accordance with established procedures
4.1.06 Follow established procedures for the administration of first aid and contact emergency medical personnel when necessary

Academic Standards

English: Demonstrate comprehension of print and electronic text by responding to questions (e.g., literal, inferential, evaluative and synthesizing). (Reading Process B, 8-10; Reading Process B, 11-12)

Benchmark: 4.15 Water Distribution Systems
Level 1: Identify tools and materials, design a water supply line with fixture and install

Indicators
4.15.01 Calculate daily water needs
4.15.02 Identify the common components of a water distribution system and describe their functions
4.15.04 Calculate water demand for specific applications
4.15.09 Describe the types and sources of contamination in water supplies (i.e., fuel storage tanks, septic systems, pesticide mixing areas, hazardous waste, manure storage, livestock yard, and silage effluent) and methods for disinfecting water

Academic Standards

Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)
Science: Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources. (Earth and Space Sciences D, 9-10)

Benchmark: 5.10 Solid Waste and Renewable Resource Management
Level 1: Collect and dispose of solid waste using best available technology

Indicators
5.10.01 Collect, analyze, and treat waste materials (e.g., mortalities, manure, garbage)
5.10.02 Identify the risks associated with solid waste accumulation, utilization and disposal
5.10.04 Describe the process of aerobic and anaerobic waste decomposition (biotic and abiotic influences)
5.10.05 Describe and monitor solid waste disposal procedures (e.g., landfills, lagoon, run-off)
5.10.06 Describe and implement waste management methods (e.g., composting facility, waste incineration, recycling)
5.10.07 Explain control processes and potential use for waste byproducts (e.g., landfill gas, sludge, manure, methane)
5.10.10 Determine solid waste volume generated by an operation or facility

Academic Standards

English: Use multiple resources to enhance comprehension of vocabulary. (Vocabulary F, 8-10; Vocabulary E, 11-12)
Math: Estimate and compute various attributes, including length, angle measure, area, surface area and volume, to a specified level of precision. (Measurement E, 8-10)
Science: Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources. (Earth and Space Sciences D, 9-10)

Benchmark: 5.11 Potable Water Treatment Operations
Level 1: Select the potable water treatment method for a specific purpose

Indicators
5.11.01 Identify characteristics of potable water treatment and sources of water
5.11.02 Collect potable water samples
5.11.03 Identify components of water entering water-treatment facility
5.11.04 Perform an analysis of the components of potable water

Academic Standards

English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)

Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Science: Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources. (Earth and Space Sciences D, 9-10)

Benchmark: 5.12 Wastewater Treatment Operations

Level 1: Select a wastewater treatment method for a specific purpose

Indicators

5.12.01 Identify the components of a wastewater treatment system

5.12.02 Collect wastewater samples

5.12.03 Describe wastewater collection systems

Academic Standards

English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)

Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Science: Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources. (Earth and Space Sciences D, 9-10)

Benchmark: 5.3 Ecosystems

Level 1: Identify ecosystems and compare components of ecosystems

Indicators

5.3.03 Differentiate between renewable and nonrenewable components of ecosystems

5.3.04 Model positive environmental practices for sustainability of resources

Academic Standards

Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Science: Explain that many processes occur in patterns within the Earth's systems. (Earth and Space Sciences B, 9-10)

Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Unit: Alternative/Renewable Energy

Students will research and identify different types of alternate and renewable resources available.

Benchmark: 5.7 Energy

Level 1: Select energy/fuels based on their physical properties

Indicators

5.7.01 Identify and compare fossil fuel energy sources

5.7.02 Identify and compare renewable energy sources (e.g., biomass, methane, solar, wind, geothermal, etc.)

5.7.03 Identify and compare nuclear energy sources

5.7.04 Calculate fuel equivalents between energy sources

5.7.05 Trace the transformations of energy within a system (e.g., mechanical to electrical, chemical to mechanical)

5.7.06   Research information in literature about sources of energy beyond traditional fuels, their known advantages and disadvantages, and any unintended consequences developing from their use

5.7.07   Identify environmental impacts of energy sources and determine methods to lessen environmental impact (e. g., carbon sequestration, conservation, efficiency, etc.)

Academic Standards
English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)
Math: Estimate and compute various attributes, including length, angle measure, area, surface area and volume, to a specified level of precision. (Measurement E, 8-10)
Science: Explain how energy may change form or be redistributed but the total quantity of energy is conserved. (Physical Sciences F, 9-10)
Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Unit: Sustainable Agriculture

Students will identify plants and animals that can be grown in either production or urban areas for sustainability. Students will implement practices that can be applied for sustainable agriculture while following all local, state, and government regulations.

Benchmark: 1.3 Care and Management
Level 1: Describe the fundamental care and management practices for animals and select, handle, mark, manage environmental conditions, and provide general care for a limited number of animals or animal species.

Indicators
1.3.02   Recognize and determine the biotic and abiotic factors that impact the animals' environment (e.g., air, ventilation)
1.3.03   Describe and implement scientific concepts of animal welfare
1.3.05   Estimate carrying capacity of the environment and its impact on animal health

Academic Standards
Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)
Science: Explain the structure and function of ecosystems and relate how ecosystems change over time. (Life Sciences F, 9-10)

Benchmark: 1.6 Animal Behavior
Level 1: Observe an animal's natural tendencies and predict changes in behavior when the environment is changed

Indicators
1.6.01   Describe the adaptations and special senses (e.g., sight, hearing, smell, touch) of animals and how they contribute to animal behavior
1.6.03   Manipulate an animal's behavioral and natural tendencies through appropriate management practices
1.6.09   Handle and move animals (e.g., training, restraint, confinement) with regard for safety of animals and handlers

Academic Standards
Science: Describe how human activities can impact the status of natural systems. (Life Sciences G, 9 -10)

Benchmark: 3.10 Business Regulation, Law and Related Issues
Level 1: Identify and describe government regulations and societal issues related to a specific business enterprise or environmental project

Indicators
3.10.02 Explain the purpose and impact of government regulations
3.10.03 Identify local, state and federal regulations relative to compliance
3.10.08 Assess the impact of issues affecting the industry and recommend solutions

Academic Standards
English: Demonstrate comprehension of print and electronic text by responding to questions (e.g., literal, inferential, evaluative and synthesizing). (Reading Process B, 8-10; Reading Process B, 11-12)
Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)
Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Benchmark: 3.12 Agrosecurity and Biosecurity
Level 1: Identify agrosecurity and biosecurity risks for an enterprise

Indicators
3.12.01 Recognize sources and origins of agents that can contaminate processed and unprocessed food products
3.12.02 Identify activities and biological agents that contribute to the risk of acquiring or preventing a specific disease

Academic Standards
English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)

Benchmark: 5.1 Soils
Level 1: Determine and analyze the physical, biological and chemical properties of soils and other plant growing media

Indicators
5.1.01   Classify soil types based on composition (e.g., aggregate size, organic matter, texture)
5.1.02   Inventory soils and determine land use capabilities
5.1.03   Interpret soil survey data to implement conservation practices
5.1.04   Select techniques that reduce soil erosion and compaction based on soil and land properties (e.g., no till, subsurface and watershed drainage)
5.1.05   Evaluate soil limitations (e.g., wildlife/wetlands habitats, septic systems, drainage, agriculture and socioeconomic considerations, preservation easements)
5.1.06   Explain current and historical interactions between human activities and soils (e.g., wetlands use, urbanization, desertification, finite resources, habitat change, climate change)
5.1.07   Identify soil forming factors and explain how they produce variability in soils

Academic Standards
English: Use multiple resources to enhance comprehension of vocabulary. (Vocabulary F, 8-10; Vocabulary E, 11-12)
Math: Describe and interpret rates of change from graphical and numerical data. (Algebra J, 8-10)
Science: Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources. (Earth and Space Sciences D, 9-10)

Social Studies: Use appropriate data sources and geographic tools to analyze and evaluate public policies. (Geography C, 11-12)

Benchmark: 7.3 Pest Management
Level 1: Identify common types of plant pests and apply basic pest management control methods

Indicators
7.3.02 Examine interrelationships between plants, pests, humans and environment (e.g., non-native species, climate change)
7.3.05 Develop an integrated pest management plans based on pest life cycles, available treatments and application methods
7.3.06 Select application methods, implement pest control plan (i.e. organic and non-organic) and evaluate effectiveness and impact on environment

Academic Standards
English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)
Math: Find, use and interpret measures of center and spread, such as mean and quartiles, and use those measures to compare and draw conclusions about sets of data. (Data Analysis D, 8-10)
Science: Explain the structure and function of ecosystems and relate how ecosystems change over time. (Life Sciences F, 9-10)
Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Benchmark: 7.4 Plant Production and Management
Level 1: Manage growth of common types of plants

Indicators
7.4.01 Identify and classify seeds and plants at all stages of growth
7.4.02 Identify plant anatomical structures and tissues (e.g., roots, stems, flowers, leaves, fruits, seeds)
7.4.03 Describe physiological functions of plants (e.g., photosynthesis, respiration, transpiration, absorption)
7.4.04 Identify and classify plants using taxonomy
7.4.05 Select seeds and plants (e.g., production, ornamental, erosion control, genetically modified organism [GMO], moisture control, bioremediation)
7.4.06 Manipulate abiotic and biotic factors (e.g., irrigation, mulch, lighting, temperature, drainage) to alter plant germination, growth and development
7.4.07 Evaluate and demonstrate planting practices (e.g., population rate, germination/seed vigor, inoculation, seed and plant treatments, cuttings and pot in pot, type of planter)
7.4.08 Evaluate and implement transplanting practices
7.4.09 Evaluate/select and prepare soil/media for planting
7.4.10 Control plant growth (e.g., pruning, pinching, chemical, disbudding)
7.4.11 Determine maintenance schedule for plant management plan
7.4.12 Analyze and satisfy plant water requirements
7.4.13 Identify characteristics (e.g., visual appeal, quality, test weights, final usage) of grains, seeds, vegetables, fruits, and ornamental plants

Academic Standards
English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)
Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)
Science: Explain the flow of energy and the cycling of matter through biological and ecological systems (cellular, organismal and ecological). (Life Sciences D, 9-10)

Benchmark: 7.5 Harvesting, Handling and Storage
Level 1: Harvest, handle and store plants and plant products

Indicators
7.5.01   Determine crop maturity
7.5.02   Identify safe harvesting, handling and storage practices
7.5.03   Determine and control environmental conditions relative to harvesting, handling and storage
7.5.04   Demonstrate harvesting, handling and storage techniques to minimize loss and maximize economic return
7.5.05   Calculate yield and loss of harvesting, processing and storage
7.5.6   Maintain and/or enhance quality of plant products in harvesting, handling and storage (e.g., temperature, humidity, retardants, light, chemicals, contamination)
7.5.7   Prepare products for sale, transportation and storage

Academic Standards
Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)

Unit: Environmental Monitoring

Using available technology like GIS, students will read and interpret maps to identify areas that are being monitored for air and water quality. Students will describe EPA regulations needed to monitor environmental quality along with testing for air and water contaminant sources.

Benchmark: 3.10 Business Regulation, Law and Related Issues
Level 1: Identify and describe government regulations and societal issues related to a specific business enterprise or environmental project

Indicators
3.10.05 Adhere to business-related documentation requirements
3.10.06 Identify governmental agencies and non-governmental organizations that impact agricultural/environmental issues
3.10.07 Research history, politics and policies related to issues

Academic Standards
English: Demonstrate comprehension of print and electronic text by responding to questions (e.g., literal, inferential, evaluative and synthesizing). (Reading Process B, 8-10; Reading Process B, 11-12)
Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)
Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Benchmark: 5.15 Geographic Information Systems (GIS)
Level 1: Use GIS software to interpret maps

Indicators
5.15.01 Interpret and evaluate accuracy of digital imagery and aerial photography
5.15.02 Explain map projections and the use of scales
5.15.03 Describe data structures (e.g., vector, grid, TIN, etc.)
5.15.04 Explain digital elevation methods (e.g., DEM, GPS)

5.15.05 Interpret spatial interpolation and two-dimensional and three-dimensional functional spatial analyses
5.15.06 Explain ranging methods
5.15.07 Identify sources of possible errors in GIS and possible corrections/solutions
5.15.08 Determine position on the earth
5.15.09 Develop a GIS plan
5.15.10 Integrate GPS data into GIS applications

Academic Standards
English: Use multiple resources to enhance comprehension of vocabulary. (Vocabulary F, 8-10; Vocabulary E, 11-12)
Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)
Social Studies: Use appropriate data sources and geographic tools to analyze and evaluate public policies. (Geography C, 11-12)

Benchmark: 5.2 Water
Level 1: Assess water quality using basic indicators

Indicators
5.2.01   Measure pH, dissolved oxygen (DO), biological oxygen demand (BOD), temperature and macroinvertebrate populations to determine water quality
5.2.02   Measure hardness, nitrogen, phosphorus, vegetation and physical characteristics of lentic and lotic waters to determine water quality
5.2.03   Explain the hydrological cycle (e.g., condensation, evaporation, transpiration) and how human activity impacts the cycle
5.2.04   Explain the biotic and abiotic factors affecting water quality
5.2.05   Monitor and analyze water quality and quantity
5.2.06   Explain the interactions between human activities and the earth's hydrosphere (e.g., septic systems, desalinization, point and nonpoint sources of pollution)
5.2.07   Implement practices to maintain or improve water quality

Academic Standards
English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)
Math: Apply various measurement scales to describe phenomena and solve problems. (Measurement B, 11-12)
Science: Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources. (Earth and Space Sciences D, 9-10)

Benchmark: 5.3 Ecosystems
Level 1: Identify ecosystems and compare components of ecosystems

Indicators
5.3.01   Explain and illustrate basic ecological principles and cycles (e.g., nitrogen cycle, food web, energy pyramid)
5.3.02   Explain biotic (plant and animal) interactions with the abiotic (non-living) environment
5.3.03   Differentiate between renewable and nonrenewable components of ecosystems
5.3.04   Model positive environmental practices for sustainability of resources
5.3.05   Inventory and evaluate characteristics of different ecosystems (e.g., pond, stream, crop lands, open land, brush lands, grasslands, woodlands, wetlands)
5.3.06   Discuss restoration ecology and its role in repairing damaged landscapes
5.3.07   Identify and contrast biomes globally
5.3.08   Determine the factors that affect ecological succession
5.3.09   Determine the impact that native and non-native invasive species have on ecosystems

Academic Standards

Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Science: Explain that many processes occur in patterns within the Earth's systems. (Earth and Space Sciences B, 9-10)

Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Benchmark: 5.4 Contaminants
Level 1: Determine the presence of contaminants and follow reporting procedures

Indicators

5.4.01 Determine types, sources and impact of natural and man-made contaminants (e.g., manure; wastewater; soil; agricultural, residential and industrial chemicals)

5.4.02 Explain and implement programs and policies related to contaminants

5.4.03 Identify, comply with and implement contaminant control, remediation and prevention practices (e.g., biological, radiological, sanitation, buffer strips for run-off)

5.4.04 Monitor, analyze and evaluate levels of contaminants from point source and non-point source

Academic Standards

English: Use multiple resources to enhance comprehension of vocabulary. (Vocabulary F, 8-10; Vocabulary E, 11-12)

Math: Estimate and compute various attributes, including length, angle measure, area, surface area and volume, to a specified level of precision. (Measurement E, 8-10)

Science: Describe how human activities can impact the status of natural systems. (Life Sciences G, 9 -10)

Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Benchmark: 5.5 Air
Level 1: Measure levels of oxygen, carbon dioxide and particulate matter

Indicators

5.5.01 Determine chemical and physical properties of air (e.g., composition, density, pressure)

5.5.02 Explain chemical cycles and how they relate to the biosphere, geosphere and atmosphere (e.g., nitrogen cycle, oxygen cycle, sulfur cycle)

5.5.03 Explain human and natural factors affecting air quality (e.g., volcanic eruptions, forest fires, greenhouse gases, dust, farming practices)

5.5.04 Monitor and evaluate air quantity and quality

5.5.05 Assess the potential for air contamination at a specific site

Academic Standards

English: Apply knowledge of roots, affixes and phrases to aid understanding of content area vocabulary. (Vocabulary D, 11-12)

Math: Estimate and compute various attributes, including length, angle measure, area, surface area and volume, to a specified level of precision. (Measurement E, 8-10)

Science: Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources. (Earth and Space Sciences D, 9-10)

Benchmark: 5.8 Water Use and Management (Hydrology)
Level 1: Identify sources of water (e.g., surface water, soil water, bedrock water, aquifer)

Indicators

5.8.01   Explain hydrology
5.8.02   Explain geological and meteorological principles affecting groundwater supply
5.8.03   Conduct channel flow analysis
5.8.04   Identify basic criteria for water well design
5.8.05   Identify differences in groundwater potential
5.8.06   Assess the potential for water contamination at a specific site
5.8.07   Measure volumes of water (e.g., wells, ponds, run-off, waterways)
5.8.08   Control water (e.g., pumps, dams, retention ponds, drainage)
5.8.09   Control water (e.g., pumps, dams, retention ponds, drainage)

Academic Standards

English: Demonstrate comprehension of print and electronic text by responding to questions (e.g., literal, inferential, evaluative and synthesizing). (Reading Process B, 8-10; Reading Process B, 11-12)

Math: Estimate and compute various attributes, including length, angle measure, area, surface area and volume, to a specified level of precision. (Measurement E, 8-10)

Science: Describe how human activities can impact the status of natural systems. (Life Sciences G, 9 -10)

Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)