Course Title: Environmental Science
Board Approval Date: 4/14/14
Credit / Hours: 1 credit

Course Description:

This course focuses on mastery of the PA Academic Standards for Science and Technology as well as Environment and Ecology. As students progress through this course they will participate in a systematic study of an advanced outlook and understanding of the environmental science field. At this point in the student's educational career, they have continued to specialize in their own interest areas. Throughout this course, instruction is provided in these specialty areas that are directly related to the environmental science field. Also, involved with this course is the competition known as the North American Envirothon. Material being presented in this course is designed to provide a specialized and diverse amount of information to students who in turn can apply these principles to their own individual situations. Information being presented is: the balance of nature and man's influence on that balance, freshwater and terrestrial ecological principles, pollution, toxic waste, acid rain, invasive species, energy consumption, food supplies, basic fundamentals of conservation, wildlife identification and management, causes and solutions to current environmental issues, soil identification and management and forest science.

Learning Activities / Modes of Assessment:

Large group instruction	Tests and Quizzes
Laboratory demonstration	Checklists / Teacher Observation
Small group work	Projects with Rubrics
Greenhouse instruction	Lesson Worksheets
Career Pathway Explorations	LFS Worksheets
Outdoor Lab	

Instructional Resources:

www.agednet.com
www.pacareerzone.com
PA Game Commission Videos
You Tube Videos
National Envirothon Website
Pennsylvania Envirothon Website

Course Pacing Guide

Course: **Environmental Science**

Course Unit (Topic)	**Length of Instruction (Days/Periods)**
1. Environmental Science	180 days
Total Days	180 Days

Curriculum: CCSD CURRICULUM

PENNSYLVANIA

Course: Environmental Science (04/14/14)

Date: March 7, 2014 ET

Teacher / Team Name: Brown/Seesholtz

Topic: Environmental Science

Days: 180

Subject(s): Science

Grade(s): 10th, 11th, 12th

Know:	Understand:	Do:
3.1.B.B4. – Important BIOTECHNOLOGY - Explain how genetic technologies have impacted the fields of medicine, forensics, and agriculture	Students should understand the diversity of Pennsylvania's environmental resources and the methods used to manage those resources.	**4.1.12.A.c – Unranked** Analyze the differences between natural causes and human causes of extinction.
3.1.12.C1. – Unranked NATURAL SELECTION - Analyze how natural selection leads to speciation.		**4.1.12.A.d – Unranked** Research wildlife management laws and their effects on biodiversity.
3.1.12.C3.b – Unranked UNIFYING THEMES - Evaluate survival of the fittest in terms of species that have remained unchanged over long periods of time.		**4.1.12.C.a – Unranked** Research how humans affect energy flow within an ecosystem.
4.1.12.A.a – Unranked Analyze the significance of biological diversity in an ecosystem.		**4.1.12.C.b – Unranked** Describe the impact of industrial, agricultural, and commercial enterprises on an ecosystem.
4.1.12.A.b – Unranked Explain how species adapt to limiting factors in an ecosystem.		**4.1.12.E. – Unranked** Research solutions addressing human impacts on ecosystems over time.
4.2.12.A. – Unranked Examine environmental laws related to land use management and its impact on the water quality and flow within a watershed.		**4.2.12.B.c – Unranked** Investigate the intended and unintended effects of public polices and regulations relating to wetlands.
4.2.12.B.a – Unranked Analyze the effects of policies and regulations at various governmental levels on wetlands and their surrounding environments.		**4.2.12.C.b – Unranked** Assess the intended and unintended effects of public polices and regulations relating to water quality.
		4.3.12.A.c – Unranked Evaluate the advantages and disadvantages of using renewable resources such as solar power, wind power, and biofuels.
		4.3.12.B.a – Unranked Analyze factors that influence the local, regional, national, and global availability of natural resources.
		4.3.12.B.b – Unranked Compare the use of natural resources in different countries.
		4.3.12.D.a – Unranked Evaluate waste management practices.

Curriculum: CCSD CURRICULUM

PENNSYLVANIA

Course: Environmental Science (04/14/14)

Date: March 7, 2014 ET

Teacher / Team Name: Brown/Seesholtz

Topic: Environmental Science

Days: 180

Subject(s): Science

Grade(s): 10th, 11th, 12th

Know:	Understand:	Do:
4.2.12.B.b – Unranked Examine various public policies relating to wetlands.		**4.3.12.D.c – Unranked** Research the impact of new and emerging technologies in the use, reuse, recycling and disposal of materials.
4.2.12.C.a – Unranked Analyze the effects of policies and regulations at various governmental levels on water quality.		**4.3.12.D.d – Unranked** Evaluate ways that waste could be reduced during the production of specific product.
4.3.12.B.c – Unranked Analyze the social, economic, and political factors that affect the distribution of natural resources (e.g., wars, political systems, classism, racism).		**4.5.12.A.a – Unranked** Research how technology influences the sustainable use of natural resources.
4.3.12.D.b – Unranked Analyze current solid waste regulations.		**4.5.12.A.b – Unranked** Analyze how consumer demands drive the development of technology enabling the sustainable use of natural resources.
4.5.10.B. – Unranked Describe the impact of integrated pest management practices on the environment.		**4.5.12.C.a – Unranked** Analyze the costs and benefits of means to control pollution.
4.5.12.C.d – Unranked Explain mitigation and its role in maintaining environmental health.		**4.5.12.C.b – Unranked** Analyze the role of technology in the reduction of pollution.
4.5.12.D.b – Unranked Evaluate the impact of laws and regulations on reducing the number of threatened and endangered species.		**4.5.12.C.c – Unranked** Research and analyze the local, state, and national laws that deal with point and non-point source pollution.
		4.5.12.D.a – Unranked Analyze the effects of new and emerging technologies on biodiversity in specific ecosystems.
		4.5.12.E. – Unranked Analyze how consumer demands promote the production of pollutants that affect human health.