

Standards Correlations

Ecology and Environmental Management (8045, 8046)

Task	Standards of Learning
Demonstrating Personal Qualities and Abilities	
Demonstrate creativity and innovation.	<p>English: 6.1, 6.3, 6.4, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 8.2, 8.4, 8.6, 8.7, 8.11, 8.12, 8.17, 8.18, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, AII.9, COM.1, COM.3, COM.4, COM.5, COM.8, DM.7, DM.1*, DM.10, DM.2*, DM.3*, PS.3*, PS.4*, PS.7*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>
Demonstrate critical thinking and problem solving.	<p>English: 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.5, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.10, 6.11, 7.2, 7.3, 7.8, 7.12, 7.13, 8.2, 8.4, 8.8, 8.9, 8.10, 8.11, A.8, A.9, G.1, G.13, G.14, AFDA.3, AFDA.5, AFDA.8, AII.9, AII.10, AII.11, COM.1, COM.3, COM.4, COM.5, COM.8, DM.4, DM.7, DM.1*, DM.2*, DM.3*, DM.9*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>
Demonstrate initiative and self-direction.	<p>English: 6.1, 6.4, 6.6, 6.7, 6.9, 7.1, 7.4, 7.6, 7.7, 7.9, 8.1, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>
Demonstrate integrity.	<p>English: 6.1, 7.1, 8.1, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5</p> <p>History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>
Demonstrate work ethic.	<p>English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Science: CH.1</p>
Demonstrating Interpersonal Skills	

Task	Standards of Learning
Demonstrate conflict-resolution skills.	<p>English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.4, 8.6, 8.7, 8.9, 9.1, 10.1, 11.1, 12.1</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, VUS.1</p>
Demonstrate listening and speaking skills.	<p>English: 6.1, 6.2, 6.4, 6.6, 7.1, 7.2, 7.4, 7.6, 8.1, 8.2, 8.4, 8.6, 9.1, 10.1, 11.1, 12.1</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>
Demonstrate respect for diversity.	<p>English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1</p> <p>History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, USII.9, VUS.1, VUS.13, WG.1, WHI.1, WHII.1</p>
Demonstrate customer service skills.	<p>English: 6.1, 6.4, 6.7, 7.1, 7.4, 7.7, 8.1, 8.4, 8.7, 9.1, 9.5, 9.6, 10.1, 10.5, 10.6, 11.1, 11.5, 11.6, 12.1, 12.5, 12.6</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>
Collaborate with team members	<p>English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1</p> <p>History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>
Demonstrating Professional Competencies	
Demonstrate big-picture thinking.	<p>English: 6.1, 6.4, 7.1, 7.4, 8.1, 8.4, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5</p> <p>History and Social Science: CE.1, CE.4, CE.12, GOVT.1, GOVT.15, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>
Demonstrate career- and life-management skills.	<p>English: 6.1, 6.7, 7.1, 7.7, 8.1, 8.7, 9.1, 9.6, 10.1, 10.6, 11.1, 11.6, 12.1, 12.6</p> <p>History and Social Science: CE.1, CE.4, CE.12, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: 8.4</p>
Demonstrate continuous learning and adaptability.	<p>English: 6.1, 6.4, 6.7, 6.9, 7.1, 7.4, 7.7, 7.9, 8.1, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.3, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Science: BIO.1, CH.1, LS.1, PH.1, PH.4, PS.1</p>
Manage time and resources.	<p>English: 6.1, 6.2, 6.4, 6.7, 6.9, 7.1, 7.2, 7.4, 7.7, 7.9, 8.1, 8.2, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8</p>

Task	Standards of Learning
	<p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 8.4, 8.11, 8.12, 8.13, 8.14, 8.17, 8.18, A.4, A.5, A.8, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, COM.1, COM.3, COM.5, COM.8</p>
Demonstrate information-literacy skills.	<p>English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.9, 9.2, 9.5, 9.6, 9.8, 10.2, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: 6.10, 6.11, 7.8, 7.9, 8.11, 8.12, A.8, A.9, AFDA.3, AFDA.4, AFDA.6, AFDA.7, AFDA.8, DM.8, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1</p>
Demonstrate an understanding of information security.	<p>English: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.8, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.8, 8.9, 9.1, 9.2, 9.5, 9.6, 9.8, 10.1, 10.2, 10.5, 10.6, 10.8, 11.1, 11.2, 11.5, 11.6, 11.8, 12.1, 12.2, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: COM.10</p>
Maintain working knowledge of current information-technology (IT) systems.	<p>English: 6.1, 6.3, 6.4, 6.6, 6.9, 7.1, 7.3, 7.4, 7.6, 7.9, 8.1, 8.3, 8.4, 8.6, 8.9</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17</p> <p>Science: BIO.1, CH.1, ES.1, PH.1</p>
Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.	<p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: 6.10, 6.11, 7.9, 8.4, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AII.4, AII.7, AII.9, COM.1, COM.7, COM.10, COM.11, COM.12, COM.16</p> <p>Science: CH.1, ES.1, LS.1, PH.1, PS.1</p>
Apply mathematical skills to job-specific tasks.	<p>English: 6.4, 6.6, 6.7, 7.4, 7.6, 7.7, 8.4, 8.6, 8.7, 9.5, 9.6, 10.5, 10.6, 11.5, 11.6, 12.5, 12.6</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>

Task	Standards of Learning
	<p>Mathematics: 6.1, 6.2, 6.5, 6.6, 6.12, 6.13, 6.14, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.8, 7.9, 7.11, 7.12, 7.13, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16, 8.17, 8.18, A.1, A.3, A.4, A.5, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AFDA.8, AII.3, AII.7, AII.9, AII.10, COM.1, COM.7</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1</p>
Demonstrate professionalism.	<p>English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>
Demonstrate reading and writing skills.	<p>English: 6.1, 6.6, 6.7, 7.1, 7.6, 7.7, 8.1, 8.6, 8.7, 9.1, 9.5, 9.6, 9.7, 10.1, 10.5, 10.6, 10.7, 11.1, 11.5, 11.6, 11.7, 12.1, 12.5, 12.6, 12.7</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Science: 6.1, PH.1, PS.1</p>
Demonstrate workplace safety.	<p>English: 6.4, 7.4, 8.4, 9.5, 10.5, 11.5, 12.5</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Science: CH.1</p>
Examining All Aspects of an Industry	
Examine aspects of planning within an industry/organization.	History and Social Science: GOVT.16
Examine aspects of management within an industry/organization.	
Examine aspects of financial responsibility within an industry/organization.	
Examine technical and production skills required of workers within an industry/organization.	
Examine principles of technology that underlie an industry/organization.	
Examine labor issues related to an industry/organization.	History and Social Science: GOVT.16
Examine community issues related to an industry/organization.	History and Social Science: GOVT.16
Examine health, safety, and environmental issues related to an industry/organization.	History and Social Science: GOVT.16
Addressing Elements of Student Life	
Identify the purposes and goals of the student organization.	
Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.	
Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.	
Identify Internet safety issues and procedures for complying with acceptable use standards.	
Exploring Work-Based Learning	

Task	Standards of Learning
Identify the types of work-based learning (WBL) opportunities.	
Reflect on lessons learned during the WBL experience.	
Explore career opportunities related to the WBL experience.	
Participate in a WBL experience, when appropriate.	
Exploring Leadership Opportunities through FFA	
Identify the role of supervised agricultural experiences (SAEs) in agricultural education.	English: 9.3, 9.5, 10.3, 10.5
Participate in an SAE.	English: 9.5, 9.8, 10.5, 10.8
Identify the benefits and responsibilities of FFA membership.	English: 9.5, 9.6, 9.7, 9.8, 10.5, 10.6, 10.7, 10.8
Describe leadership characteristics and opportunities as they relate to agriculture and FFA.	English: 9.5, 10.5 History and Social Science: VUS.8, VUS.9, VUS.10, VUS.11, WHII.8, WHII.10, WHII.11
Apply for an FFA degree and/or an agricultural proficiency award.	English: 9.5, 10.5
Identifying Careers in Environmental Management	
Describe occupations in natural resource management and conservation.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.8, 13, 14; GOVT.7, 8, 9, 15
Develop a list of local, state, and federal agencies and nonprofit organizations that work with the environment and/or natural resources.	English: 10.5, 10.6, 10.7, 10.8, 11.5, 11.6, 11.7, 11.8, 12.5, 12.6, 12.7, 12.8 History and Social Science: WHII.14; VUS.8, 13, 14; GOVT.7, 8, 9, 15
Identify environmental and natural resource management and conservation businesses in the community.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.8, 13, 14; GOVT.15, 16
Developing Basic Environmental Science Concepts	
Explain the importance of the environment in sustaining living organisms.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.8, 13, 14; GOVT.3, 15, 16 Science: BIO.8
Define basic terminology in ecology and other environmental sciences.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Science: BIO.8
Explain energy transfer in ecosystems.	English: 10.5, 11.5, 12.5 Science: BIO.8
Describe the effects of natural events and anthropogenic influences on ecosystems.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.8, 13, 14; GOVT.15 Science: BIO.8
Explain principles and processes of ecological succession.	English: 10.5, 11.5, 12.5 Science: BIO.8
Illustrate geometric vs. arithmetic increases in population growth.	Science: BIO.8

Task	Standards of Learning
	Mathematics: AFDA.1, 3; AII.5, 6, 7; MA.2, 13
Describe how population growth is related to environmental degradation and global food insecurity.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.14; VUS.8, 13, 14; GOVT.12 Science: BIO.8
Explain the tragedy of the commons.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.8; GOVT.13, 14, 16 Science: BIO.8
Explain the role of biodiversity in ecosystem stability.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Science: BIO.8
Explain the latitudinal diversity gradient.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Explain the process of species differentiation.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Science: BIO.5, 8
Protecting the Environment – Air and Noise	
Explain the composition of the atmosphere.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Science: ES.11
Explain effective methods to control various air pollutants.	English: 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: WHII.14; VUS.13, 14; GOVT.15 Science: ES.11
Explain the effects of climate change.	English: 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: WHII.1, 14; VUS.1, 14; GOVT.12, 15 Science: ES.11, 12
Research the sources and effects of acid rain.	English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.11, 12
Analyze the effects of ozone depletion.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.11, 12
Identify types of noise pollution and the effect on humans, wildlife, and ecological systems.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Identify sources of light pollution and its effect on wildlife and ecological systems.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Protecting the Environment – Soil	

Task	Standards of Learning
Describe soil fertility and the role of soil in ecosystems.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.8
Classify soils using the soil taxonomy system.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.8
Identify differences in soil profiles.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.8
Investigate soil types and suitability.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.8
Interpret data contained in soil maps.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Explain land capability classes.	English: 10.5, 11.5, 12.5
Explain leaching in soils.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Science: ES.8
Collect soil samples to analyze for composition.	English: 10.5, 11.5, 12.5
Interpret soil test results to make nutrient recommendations.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Explain how wind and water erode soil.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1
Identify common plants used for riparian buffers and other vegetative erosion control methods.	English: 10.5, 11.5, 12.5
Explain the effects of erosion on plants, animals, and their habitats.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Describe agricultural practices that conserve soil structure and fertility.	English: 10.5, 11.5, 12.5 History and Social Science: VUS.8
Explain mechanical erosion control measures.	English: 10.5, 11.5, 12.5
Protecting the Environment – Water	
Identify the characteristics of a watershed.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1 Science: ES.8
Explain the role of water in ecosystems.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1 Science: ES.8, BIO.2, 4, 8
Illustrate the hydrologic cycle.	English: 10.5, 11.5, 12.5

Task	Standards of Learning
	History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.8
Define <i>wetlands</i> and their uses.	English: 10.3, 10.5, 11.3, 11.5, 12.3 12.5 History and Social Science: WHII.1; VUS.1
Illustrate components of the riverine system.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Identify characteristics of an estuarine system.	English: 10.5, 11.5, 12.5 Science: ES.8
Describe an aquatic zonation system.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Science: BIO.8
Explain how water moves in the oceans and the factors affecting movement.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1 Science: ES.10
Explain groundwater and its sources.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1 Science: ES.8
Explain the Clean Water Act.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.7, 8, 9, 15
Examine the water needs for an agricultural enterprise, school, or home.	English: 10.5, 11.5, 12.5
Define <i>point-source</i> and <i>nonpoint-source</i> (NPS) pollution.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: GOVT.15
Identify major water pollutants, their sources, and their effects on the environment, the economy, and human health.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.13, 14; GOVT.15
Report on the effects of polluted water on animals and humans.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1, 14; VUS.1, 13, 14; GOVT.1, 15 Science: BIO.8
Explain the importance of karst topography.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1 Science: ES.8
Compare methods used to reduce surface and groundwater contamination.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Analyze water samples for chemical pollutants and organisms.	English: 10.5, 11.5, 12.5
Analyze water quality using the Izaak Walton League of America method.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Explain the effects of water pollution on agricultural production.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1, 14; VUS.1, 13, 14; GOVT.15

Task	Standards of Learning
Define <i>eutrophication</i> and its relationship to nutrient-rich waters.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Select best management practices (BMPs) designed to improve water quality.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1
Interpret a flood-hazard analysis.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Explain methods of flood control.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Compare stream bank protection measures.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1
Investigating Environmental Issues	
Examine environmental agencies.	English: 10.5, 11.5, 12.5 History and Social Science: VUS.13, 14; GOVT.7, 9, 15
Identify local, state, national, and global issues concerning agriculture and the environment.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.13, 14; GOVT.7, 9, 15
Summarize how agriculture and the environment are related.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Compare sustainability practices and multiple-use management strategies used to protect and maintain Virginia’s forest ecosystems.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Define <i>organic farming</i> .	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.14; VUS.14; GOVT.15
Assess how technology has mitigated pollution.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1, 8, 14; VUS.1, 8, 14; GOVT.1
Planning and Managing Land Use	
Identify major land uses and their effects on the environment and ecosystems.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1, 8, 14; VUS.1, 8, 14; GOVT.1, 8, 9, 15
Explain zoning classifications and their effects.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1, 8, 10, 14; GOVT.1, 7, 8, 9, 15
Classify land zoning according to its uses.	English: 10.5, 11.5, 12.5 History and Social Science: VUS.1, 14; GOVT.1, 7, 8, 9, 15
Describe green infrastructure.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.14; VUS.13, 14; GOVT.15
Managing Fish and Wildlife	
Describe the role of hunting and fishing in the management of wildlife.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Identify common game species native to Virginia.	English: 10.5, 11.5, 12.5

Task	Standards of Learning
	History and Social Science: VUS.2, 3; GOVT.7, 8, 9, 15 Science: BIO.8
Contrast habitat requirements for various fish and wildlife.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: BIO.8
Describe human conflicts with wildlife populations.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.13, 14 Science: BIO.8
Describe the environmental effects of overpopulation of wildlife.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.13, 14
Identify local plants or trees that provide food and/or cover for animals and birds.	English: 10.5, 11.5, 12.5 Science: BIO.8
Explain measurement of wildlife and fish populations.	English: 10.5, 11.5, 12.5
Explain the difference among extinct, extirpated, endangered, and threatened species of wildlife.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1 Science: BIO.8
Identify Virginia's threatened and endangered species.	English: 10.5, 11.5, 12.5 Science: BIO.8
Identify diseases and parasites in wildlife.	English: 10.5, 11.5, 12.5
List methods to improve reestablishment of species to a natural habitat.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7, 12.5, 12.6, 12.7
Describe management practices of freshwater fisheries.	English: 10.5, 11.5, 12.5
Summarize the aquaculture industry.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.9, 15
Describe the effects of habitat loss.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1
Managing Forests and Forestland	
Explain basic tree structure and growth.	English: 10.5, 11.5, 12.5
Identify forest trees of Virginia.	English: 10.5, 11.5, 12.5 Science: BIO.8
Explain invasive species and their effects on native populations.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: BIO.8
Differentiate between forest types in Virginia.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Identify tree diseases and insect pests.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Calculate the value of standing timber.	English: 10.5, 11.5, 12.5
Identify forest products and uses of harvested trees.	English: 10.5, 11.5, 12.5 History and Social Science: VUS.2, 3

Task	Standards of Learning
Explain how trees are selected for removal.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Compare methods of forest harvest and regeneration.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Describe factors to consider when determining species most appropriate for reforestation.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Examine the uses of prescribed burning.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Explain the development and anatomy of a forest wildfire.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Develop forest wildfire prevention techniques.	English: 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Evaluate forest wildfire fighting techniques.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Explain the use of herbicides in forest management.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Research the Conservation Stewardship Program (CSP) offered through the NRCS.	English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8 History and Social Science: WHII.1; VUS.1; GOVT.1, 7, 15
Explain how urban and community forests fit into the urban ecosystem.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5
Identify the benefits of urban forests.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Explain the relationship between urban forests and air and water quality.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.14
Identify plant species appropriate for urban development.	English: 10.3, 10.5, 11.3, 11.5, 11.3, 12.5
Identify BMPs for tree care.	English: 10.5, 11.5, 12.5
Describe unfavorable conditions that urban trees experience.	English: 10.5, 11.5, 12.5
Calculate the benefits of an urban tree.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Describe techniques for planting and establishing trees.	English: 10.5, 11.5, 12.5
Develop a mulching, pruning, fertilization, and pest control plan for urban plantings.	English: 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Understanding Conservation Cartography and Orienteering	
Describe a topographic map, a relief map, and satellite imagery.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.1
Interpret a topographic map.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1

Task	Standards of Learning
Create a topographic map.	English: 10.5, 10.6, 11.5, 11.6, 12.5, 12.6 History and Social Science: WHII.1; VUS.1; GOVT.1
Determine percentage slope on a topographic map.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Mathematics: G.3, 8
Interpret maps for correlation to geographic features.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Science: ES.1
Identify cardinal directions on maps and in the outdoors.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Use a compass to orient various locations on a map.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Use triangulation to estimate an unknown location from one or more known locations.	English: English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Define <i>geographic information system (GIS)</i> .	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Explain global positioning system (GPS).	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1 Mathematics: T.8
Investigating Waste Management	
Explain the processes carried out in a sewage plant.	English: 10.5, 11.5, 12.5
Explain a sewage disposal system.	English: 10.5, 11.5, 12.5
Outline the systems for hazardous waste disposal.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7, 12.5, 12.6, 12.7 History and Social Science: WHII.1; VUS.1; GOVT.1
Identify common methods of waste disposal.	English: 10.5, 11.5, 12.5
Design a landfill.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1; GOVT.1
Managing Energy Resources	
Describe forms of usable energy.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: WHII.14; VUS.14 Science: ES.6
Outline energy production trends in the United States and worldwide.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7, 12.5, 12.6, 12.7

Task	Standards of Learning
	History and Social Science: WHII.14; VUS.14; GOVT.15
Explain traditional and primary energy sources in use today.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7, 12.5, 12.6, 12.7
Describe alternative sources of energy.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14; VUS.14 Science: ES.6
Evaluate appliances for energy use and conservation.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1; VUS.1
Describe how various energy sources are obtained, processed, distributed, and used.	English: 10.5, 11.5, 12.5 Science: ES.6
Explain problems associated with the production, processing, distribution, and use of various energy sources.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1, 14; VUS.1, 14; GOVT.7, 9, 15