

Core and Essential to Education for Sustainability

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WA State K-12 Integrated Environmental and Sustainability Standards

Standard 1: Ecological, Social, and Economic Systems

Students develop knowledge of the interconnections and interdependency of ecological, social, and economic systems. They demonstrate understanding of how the health of these systems determines the sustainability of natural and human communities at local, regional, national, and global levels.

Context and Background for Standard 1:

For the purposes of these standards, sustainability is defined as “meeting the needs of the present without compromising the ability of future generations to meet their needs while ensuring long-term ecological, social, and economic health.”

The most well-known definition of sustainability, “meeting the needs of the present without compromising the ability of future generations to meet their own needs,” is from the *Brundtland Report*, a product of a 1989 United Nations commission on development.

Many indigenous cultures are strongly rooted in the values of sustainability. For example, the Iroquois and other Native Americans have a tradition that asks, “What impact will this decision have on the seventh generation?” This value speaks to the intergenerational equity aspect of sustainability (how present decisions and actions affect future generations).

An essential element of sustainability is the interconnected nature of ecological, economic, and social systems. Interconnections and interdependency are distinct from each other in this standard. This distinction exists because while all natural and human systems are *interconnected* and may affect each other, not all are *interdependent*, requiring each other for survival.

Ecological systems encompass the living (biotic) and the non-living (abiotic) components of an environment. Social systems refer to human interactions, culture, and politics, with an emphasis on equity and fairness. Economic systems refer to the production, distribution, and consumption of resources including attention to economic equity and the fair distribution of opportunities and impacts.

Standard 2: The Natural and Built Environment

Students engage in inquiry and systems thinking and use information gained through learning experiences in, about, and for the environment to understand the structure, components, and processes of natural and human-built environments.

Context and Background for Standard 2:

For the purpose of this standard, “the environment” is broadly defined as the physical world, including living and nonliving components, ranging from pristine natural places to those heavily influenced by humans (e.g., rural landfill, forested areas, and densely populated urban environments).

Standard 2 encompasses thinking critically about how the human-built environment can be designed or modified to promote ecological health and better serve quality of life for all humans.

“Systems thinking” is an approach to problem solving that facilitates the analysis and understanding of complex phenomena. This approach considers the component parts of a system in the context of relationships with each other and with other systems, rather than in isolation. Systems thinking helps illustrate how events may be separated by distance and time, and that small catalytic events can cause large changes in complex systems.

The term “in, about, and for the environment” refers to learning that takes place *in* the environment (e.g., outdoor education), learning that is *about* the environment and environmental issues (e.g., loss of biodiversity, climate change, and water quality), and learning *for* conservation of the natural environment (e.g., service projects such as stream or parkland restoration).

Standard 2 promotes a sense of place through which students feel connected to and appreciate where they live. The standard encourages learning outside the formal classroom walls. These settings include school grounds, parks, streets, wilderness, local streams or beaches, community gardens or farms, community centers, museums, industrial areas, city landfills, and local businesses. Bringing the environment into the classroom helps students meet this standard. This may include using examples and artifacts from the local environment, considering the classroom itself as an environment, and inviting community members into the classroom.

Standard 3: Sustainability and Civic Responsibility

Students develop and apply the knowledge, perspective, vision, skills, and habits of mind necessary to make personal and collective decisions and take actions that promote sustainability.

Context and Background for Standard 3:

A key aspect of sustainability is the impact of one's decisions and actions on current and future generations. The intent of this standard is for students to apply the knowledge and experiences referred to in Standards 1 and 2 by taking an active role as responsible citizens and creating positive solutions for present and future generations.

Consideration of multiple perspectives allows for a wider range of possible solutions. Students should be able to envision a world that is sustainable, and articulate the changes that would be needed to achieve their vision. Necessary skills include communication, collaboration, and imagination. Desirable *habits of mind* include flexibility, commitment, appreciation, humor, confidence, and determination.

WA Professional Educators Standards Board

Environmental & Sustainability Education Endorsement Competencies - Grades 5-12

1.0 Environmental and Sustainability Education Content

Teachers know and critically analyze the historical development, purposes, interdisciplinary nature, defining characteristics, and guiding principles of environmental and sustainability education. As a result, candidates will provide evidence to demonstrate an understanding of:

- 1.A The ecological, economic, and social dimensions of sustainability.
- 1.B The interconnectedness of and significant changes occurring within and among local to global ecological, economic, and social systems.
- 1.C How culture influences people's interactions with the natural and built (human constructed) environment.
 - 1.C.1 Environmental justice, including the causes of inequitable distribution of resources and impacts over time.
 - 1.C.2 The various ways humans perceive, learn, and live in the environment, including those of the Indigenous peoples of our region.
 - 1.C.3 The role of media and technology on environmental and sustainability issues and actions.
- 1.D How to evaluate a variety of natural and human systems for sustainability.
 - 1.D.1 The basic principles and tools of various systems thinking methodologies including ecological and organizational models as they apply to environmental and sustainability education.
 - 1.D.2 Interdisciplinary inquiry methods appropriate for investigating environmental and sustainability issues.
 - 1.D.3 How they are connected to the communities in which they live (place-based learning). They employ geographic understanding to describe and analyze ecological, economic, social, and historical relationships.
- 1.E The need for action on specific environmental and sustainability issues. They identify and facilitate action projects, and evaluate potential outcomes of those action projects.
- 1.F How environmental and sustainability related policies are developed, implemented and interrelated.
 - 1.F.1 How local, national, and international cooperation is necessary to address environmental and sustainability issues.
- 1.G Current and emerging career paths in environmental and sustainability fields.

2.0 Environmental and Sustainability Education Instructional Methodology

Teachers use the unique features of environmental and sustainability education in the design and enrichment of curricula and school programs. They teach and assess environmental and sustainability curricula and create stimulating and motivating learning environments. As a result, candidates will provide evidence to demonstrate an ability to:

- 2.A Align environmental and sustainability curriculum and instruction with district, state, and national standards.

- 2.B Integrate environmental and sustainability education with standards-based curricula and school programs.
- 2.C Develop and implement curricula, including projects, which are relevant to students' lives and others within local and global communities.
- 2.D Employ effective strategies for environmental and sustainability education inside and outside the classroom.
 - 2.D.1 Teach a variety of inquiry methodologies including place-based learning, field investigation, and action research.
 - 2.D.2 Teach the use of graphs and models to represent data and communicate results of environmental and sustainability investigations.
 - 2.D.3 Teach the basic principles and tools of systems thinking for learning about environmental and sustainability issues.
 - 2.D.4 Use community resources to promote student learning about environmental and sustainability issues.
 - 2.D.5 Facilitate students' acquisition of media literacy to access, analyze, and create messages in a variety of forms.
 - 2.D.6 Create a supportive environment where students are comfortable discussing and debating issues.
 - 2.D.7 Use effective strategies for conducting investigations that are safe and environmentally sound.
 - 2.D.8 Use a variety of formative and summative assessment tools appropriate for environmental and sustainability education.
- 2.E Facilitate students' effective civic engagement for sustainable communities.

3.0 - Environmental and Sustainability Education Professional Competencies

Teachers belong and contribute to the environmental and sustainability education professional community and understand that professional development is a life-long endeavor. As a result, candidates provide evidence that they:

- 3.A Identify the benefits and recognize the importance of belonging to a professional community engaged in environmental and sustainability education.
- 3.B Engage in professional development and/or leadership opportunities related to environmental and sustainability education.
- 3.C Provide accurate, balanced, and effective environmental and sustainability education instruction.
 - 3.C.1 Critically analyze the theories and current research in environmental and sustainability education.
- 3.D Are able to articulate a rationale for environmental and sustainability education and reflect upon their role in the ongoing development of the field.