

Washington State Essential Academic Learning Requirements (EALRs) and the Envirothon

To help educators understand the role of the Envirothon in education in the state, a list of EALRs assessed by the contest has been created. Some interpretation is needed in applying the goals in the EALRs to individual segments of the contest. General assumptions are made in this list that the reader has some knowledge regarding the contest content. Each benchmark is followed by the section of the contest assessing it. Unless otherwise specified, the benchmark listed is Benchmark 3—10th grade.

Communication:

Goal 2: The student communicates ideas effectively and clearly.

2.1: communicate clearly to a range of audiences for different purposes

Benchmark

Communicate with different audiences: *Oral presentation*

Identify and use different forms of oral presentation: *Oral presentation*

2.2: develop content and ideas

Benchmark

Access a wide variety of primary and secondary sources: *Oral presentation*

Create a comprehensive and organized presentation with a clear sequencing of ideas and transitions: *Oral presentation*

Make a well reasoned, insightful presentation supported by related details: *Oral presentation*

2.3 use effective delivery

Benchmark

Vary tone, pitch and pace of speech to create effect and aid communication: *Oral presentation*

Project voice well: *Oral presentation*

Use logic, arguments or appeals to persuade others: *Oral presentation*

Use good posture and eye contact: *Oral presentation*

Skillfully use facial expression, body movement, and gestures to convey tone and mood appropriate to the audience and message: *Oral presentation*

2.4 use effective language and style

Benchmark

Speak using standard grammar: *Oral presentation*

Use a variety of sentence structure: *Oral presentation*

Use language that is interesting and well suited to the topic and audience:
Oral presentation

Develop effective voice for the audience and purpose: *Oral presentation*

2.5 effectively use action, sound and/or images to support presentations

Benchmark

Communicate messages through oral, artistic, graphic and/or multimedia presentation: *Oral presentation*

Demonstrate sophisticated use of available technology to present ideas and concepts: *Oral presentation*

Goal 3: The student uses communication strategies and skills to work effectively with others.

3.1 use language to interact effectively and responsibly with others.

Benchmark

Use language to influence others, for example, to persuade, convince, or disagree: *Oral presentation, team portion of contest*

3.2 work cooperatively as a member of a group.

Benchmark

Participate in a group to write, work toward consensus, propose solutions, or achieve results: *Team portion of contest*

Make individual contribution to the group and extend the contribution of others: *Team portion of contest*

Encourage group members to offer ideas and points of view: *Team portion of contest*

3.3 seek agreement and solutions through discussion.

Benchmark

Accept accountability for group results: *Team portion of contest*

Advocate, implement, and evaluate a plan: *Team portion of contest, oral Presentation*

Mathematics

Goal 1: The student understands and applies the concepts and procedures of mathematics.

1.1 understand and apply procedures from number sense.

Benchmark

Understand operations on real numbers: *Forestry, water, soil, wildlife*

Identify situations involving real numbers in which estimation is sufficient and computation is not required: *Water, soil, forestry*

1.2 understand and apply concepts and procedures from measurement

Benchmark

Measure objects and events directly or use indirect methods such as finding the volume of a cone given its height and diameter: *Forestry, water*

Calculate rate and other derived and indirect measurements: *Water, Forestry, soils*

Understand that the precision and accuracy of measurement is affected by the measurement tools and calculating procedures: *Forestry, soils*

1.3 understand and apply concepts and procedures from geometric sense

Benchmark

Understand and use coordinate grids: *Soils, water, forestry*

1.4 understand and apply concepts and procedures from probability and statistics

Benchmark

Use statistics to support different points of view, for example, in a debate or position paper: *Oral presentation*

Collect data using appropriate methods and technology: *Oral presentation*

Goal 5 The student understands how mathematical ideas connect within mathematics, to other subject areas, and to real-life situations.

5.2 relate mathematical concepts and procedures to other disciplines

Benchmark

Extend mathematical patterns and ideas to other disciplines: *Soils, water, forestry, wildlife*

5.3 relate mathematical concepts and procedures to real-life situations

Benchmark

Identify situations in which mathematics can be used to solve problems with local, national, or international implications such as calculating resources necessary for interstate highway maintenance: *Soils, water, forestry, wildlife,*

current environmental issues, oral presentation.

Science

Goal 1: The student understands and uses scientific concepts and principals.

1.1 use properties to identify, describe and categorize substances, materials, and objects, and use characteristics to categorize living things.

Benchmark

Correlate the chemical composition of earth materials- rocks, soils, water, gasses of the atmosphere- with properties that determine their use for humans: *Soils, water*

Classify organisms into distinct groups according to structural, cellular, biochemical, and genetic characteristics: *Wildlife, forestry*

1.2 recognize the components, structure, and organization of systems and the interconnections within and among them

Benchmark

Analyze systems, including the inputs and outputs of a system and its subsystems: *Wildlife, water, forestry*

Understand many forms of energy as they are found in common situations on earth and in the universe: *Wildlife, forestry*

Explain how patterns and arrangements of landforms, oceans and atmosphere are determined by natural forces and how the theory of plate tectonics accounts for movements over time: *Soils, water*

1.3 understand how interactions within and among systems cause changes in matter and energy

Benchmark

Explain how organisms can sustain life by obtaining, transporting, transforming, releasing, and eliminating matter and energy: *Wildlife, forestry*

Compare and contrast complex factors (biotic and abiotic) that affect living organisms' interactions in biomes, ecosystems, communities, and populations: *Wildlife, forestry*

Analyze the effects of natural events and human activities on the earth's capacity to sustain biological diversity: *Forestry, wildlife, current environmental issues*

Goal 2: The student knows and applies the skills and processes of science and technology

2.1 develop abilities necessary to do scientific inquiry

Benchmark

Research, interpret, and defend scientific investigations, conclusions, or arguments; use data, logic, and analytic thinking as investigative tools; express ideas through oral, written, and mathematical expression: *Oral presentation*

2.2 apply science knowledge and skills to solve problems or meet challenges

Benchmark

Study and analyze challenges or problems from local, regional, national, or global contexts in which science/technology can be or has been used to design a solution: *Current environmental issues, oral presentation*

Research, model, simulate, and test alternative solutions to a problem: *Oral presentation, current environmental issues*

Propose, revise, and evaluate the possible constraints, applications, and consequences of solutions to a problem or challenge: *Current environmental issues, oral presentation*

Goal 3: The student understands the nature of and contexts of science and technology

3.2 know that science and technology are human endeavors, interrelated to each other, to society, and to the workplace: oral presentation, current environmental issues

Benchmark

Analyze how the scientific enterprise and technological advances influence and are influenced by human activity, for example, societal, environmental, economical, political, or ethical considerations: *Current environmental issues, oral presentation*

Social Studies

Goal 2: The student applies the methods of social science investigation to investigate, compare and contrast interpretations of historical events.

2.1 investigate and research

Benchmark

Determine components of a historical problem: *Current environmental issues*

2.3 Synthesize information and reflect on findings

Benchmark

Reason logically; compare and contrast differing perspectives; argue both for and against a position: *Oral presentation*

Goal 3: The student understands the origin and impact of ideas and technological developments on history and social change.

3.1 explain the origin and impact of an idea on society

Benchmark

Examine how ideas have conflicted with each other such as democracy vs. communism, individual freedom vs. the common good, and Catholicism vs. Protestantism: *Current environmental issues*

Geography

Goal 1: The student uses maps, charts, and other geographic tools to understand the special arrangement of people, places, resources, and the environment on earth's surface.

1.1 use and construct maps, charts and other resources

Benchmark

Produce and interoperate maps, tables, and graphs that explain problems and may be used to construct solutions, for example, transportation networks within regions, literacy rates within states, or the variation in population density in relation to resources and land use: *Current environmental issues, water, forestry*

1.2 recognize spatial patterns on earth's surface and understand the processes that create these patterns

Benchmark

Explain why various places in different parts of the world have particular physical and human characteristics such as the effects of climate and tectonic processes, or settlement and migration patterns: *Current environmental issues, soils*

Evaluate how physical and human processes that change the physical features of the earth can affect public policy debate, for example, how river damming influences the debate about electric power generation: *Water, current environmental issues, water, forestry, wildlife, soil*

Goal 2: the student understands the complex physical and human characteristics of places and regions.

2.1 describe the natural characteristics of places and regions

Benchmark

Describe and interpret the physical processes that shape places and regions such as forces from within the earth, climate, and erosional processes: *Soils, water, forestry*

Analyze how social, cultural, and economic influences shape the physical features of places and regions, for example, farming, urbanization, trade and commerce, human migration, and transportation: *Current environmental issues, soils*

Goal 3: The student observes and analyzes the interaction between people, the environment, and culture.

3.1 identify and examine people's interaction with and impact on the environment.

Benchmark

Analyze and evaluate the possible benefits and consequences of people's use of the environment, for example, recreational use of national parks: *Soils, forestry, wildlife, water*

3.2 analyze how the environment and environmental changes affect people

Benchmark

Detect and interpret how changes in the physical environment enhance or diminish its capacity to support human activity: *Soils, forestry, wildlife*

Analyze how technological innovation may both solve environmental problems and create new ones: *All sections*

3.3 examine cultural characteristics, transmission, diffusion, and interaction

Benchmark

Analyze how peoples responses to public issues such as equity issues, gender, or fishing rights are shaped by cultural forces: *Wildlife, forestry, water, current environmental issues*