

# WASHINGTON STATE LASER

Alignment of Washington 6-8  
Science Standards by Lesson Number for

SEPUP

Ecology

November 1, 2010

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 72**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<p><b>LS3F</b></p>	<p>Extinction occurs when the environment changes and the adaptive characteristics of a species, including its behaviors, are insufficient to allow its survival.</p>	<ul style="list-style-type: none"> <li>Given an ecosystem, predict which organisms are most likely to disappear from that environment when the environment changes in specific ways.</li> </ul>	<p>SG pp E-6-8 Nile Perch Reading</p>	<p><b>Aligned with modifications (see comments)</b></p>	<p>Teachers need to emphasize the concept of extinction.</p>

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 73**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>LS2D</b>	Ecosystems are continuously changing. Causes of these changes include nonliving factors such as the amount of light, range of temperatures, and availability of water, as well as living factors such as the disappearance of different species through disease, predation, habitat destruction and overuse of resources or the introduction of new species.	<ul style="list-style-type: none"> <li>• Predict what may happen to an ecosystem if nonliving factors change (e.g., the amount of light, range of temperatures, or availability of water or habitat), or if one or more populations are removed from or added to the ecosystem.</li> </ul>	SG pp E-9-13; TG pp E-13-31	<b>Aligned as designed</b>	This unit/lesson is a part of a conceptual sequence.
<b>LS2E</b>	Investigations of environmental issues should uncover factors causing the problem and relevant scientific concepts and findings that may inform an analysis of different ways to address the issue.	<ul style="list-style-type: none"> <li>• Investigate a local environmental issue by defining the problem, researching possible causative factors, understanding the underlying science, and evaluating the benefits and risks of alternative solutions.</li> <li>• Identify resource uses that reduce the capacity of ecosystems to support various populations (e.g., use of pesticides, construction).</li> </ul>	Student Sheet 73.1	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 74**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQF</b>	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> <li>• Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation).</li> <li>• Describe the differences between an objective summary of the findings and an inference made from the findings.</li> </ul>	SG p E-16; TG pp E-37-38	<b>Aligned as designed</b>	
<b>INQI</b>	Scientists and engineers have ethical codes governing animal experiments, research in natural ecosystems, and studies that involve human subjects.	<ul style="list-style-type: none"> <li>• Demonstrate ethical concerns and precautions in response to scenarios of scientific investigations involving animal experiments, research in natural ecosystems, and studies that involve human subjects.</li> </ul>	SG p E-16	<b>Aligned with modifications (see comments)</b>	Teachers need to emphasize ethical concerns and precautions in response to scenarios of scientific investigations involving animal experiments.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 75**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQH</b>	Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.	<ul style="list-style-type: none"> <li>• Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias.</li> <li>• Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence.</li> <li>• Engage in reflection and self-evaluation.</li> </ul>	SG p E-21, E-22 Reflection; TG pp E-46-47	<b>Aligned as designed</b>	
<b>LS1E</b>	In classifying organisms, scientists consider both internal and external structures and behaviors.	<ul style="list-style-type: none"> <li>• Use a classification key to identify organisms, noting use of both internal and external structures as well as behaviors.</li> </ul>	SG pp E-19-22; TG pp E-41-49	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 76**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQH</b>	Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.	<ul style="list-style-type: none"> <li>• Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias.</li> <li>• Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence.</li> <li>• Engage in reflection and self-evaluation.</li> </ul>	SG pp E-23-24; TG pp E-57-60	<b>Aligned as designed</b>	
<b>LS1E</b>	In classifying organisms, scientists consider both internal and external structures and behaviors.	<ul style="list-style-type: none"> <li>• Use a classification key to identify organisms, noting use of both internal and external structures as well as behaviors.</li> </ul>	SG pp E-23-24; TG pp E-57-60	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 77**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>SYSF</b>	The natural and designed world is complex; it is too large and complicated to investigate and comprehend all at once. Scientists and students learn to define small portions for the convenience of investigation. The units of investigation can be referred to as “systems.”	<ul style="list-style-type: none"> <li>• Given a complex societal issue with strong science and technology components (e.g., overfishing, global warming), describe the issue from a systems point of view, highlighting how changes in one part of the system are likely to influence other parts of the system.</li> </ul>	SG pp E-32-36; TG pp E-63-72; Student Sheet 77.2	<b>Aligned as designed</b>	
<b>INQC</b>	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> <li>• Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.</li> <li>• Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.</li> <li>• Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.</li> </ul>	SG pp E-32-36; TG pp E-63-72; Student Sheet E-75, E-77	<b>Aligned as designed</b>	
<b>LS2A</b>	An ecosystem consists of all the populations living within a specific area and the nonliving factors they interact with. One geographical area may contain many ecosystems.	<ul style="list-style-type: none"> <li>• Explain that an ecosystem is a defined area that contains populations of organisms and nonliving factors.</li> <li>• Give examples of ecosystems (e.g., Olympic National Forest, Puget Sound, one square foot of lawn) and describe their boundaries and contents.</li> </ul>	SG pp E-32-36; TG pp E-63-72; Student Sheet 77.2	<b>Aligned as designed</b>	The unit/lesson is strong in the area of the concept of populations.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 77**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>LS2D</b>	Ecosystems are continuously changing. Causes of these changes include nonliving factors such as the amount of light, range of temperatures, and availability of water, as well as living factors such as the disappearance of different species through disease, predation, habitat destruction and overuse of resources or the introduction of new species.	<ul style="list-style-type: none"> <li>• Predict what may happen to an ecosystem if nonliving factors change (e.g., the amount of light, range of temperatures, or availability of water or habitat), or if one or more populations are removed from or added to the ecosystem.</li> </ul>	SG pp E-32-36; TG pp E-63-72; Student Sheet 77.2	<b>Aligned as designed</b>	The unit/lesson is strong in the concept of introduced species.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 78**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>LS2B</b>	Energy flows through an ecosystem from producers (plants) to consumers to decomposers. These relationships can be shown for specific populations in a food web.	<ul style="list-style-type: none"> <li>Analyze the flow of energy in a local ecosystem, and draw a labeled food web showing the relationships among all of the ecosystem's plant and animal populations.</li> </ul>	SG pp E-37-38; SG p 38 Analysis questions Food Web development 1 and 2; TG pp E-83-87	<b>Aligned as designed</b>	This unit/lesson is a part of a conceptual sequence.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 79**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>LS2B</b>	Energy flows through an ecosystem from producers (plants) to consumers to decomposers. These relationships can be shown for specific populations in a food web.	<ul style="list-style-type: none"> <li>Analyze the flow of energy in a local ecosystem, and draw a labeled food web showing the relationships among all of the ecosystem's plant and animal populations.</li> </ul>	SG pp E-41-45; TG pp E-95-96; Transparency 79.1; Student Sheet 79.1	<b>Aligned as designed</b>	This unit/lesson is a part of a conceptual sequence.
<b>LS2C</b>	The major source of energy for ecosystems on Earth's surface is sunlight. Producers transform the energy of sunlight into the chemical energy of food through photosynthesis. This food energy is used by plants, and all other organisms to carry on life processes. Nearly all organisms on the surface of Earth depend on this energy source.	<ul style="list-style-type: none"> <li>Explain how energy from the Sun is transformed through photosynthesis to produce chemical energy in food.</li> <li>Explain that producers are the only organisms that make their own food. Animals cannot survive without producers because animals get food by eating producers or other animals that eat producers.</li> </ul>	SG pp E-41-45; TG pp E-95-96; Transparency 79.1; Student Sheet 79.1	<b>Aligned as designed</b>	
<b>LS2D</b>	Ecosystems are continuously changing. Causes of these changes include nonliving factors such as the amount of light, range of temperatures, and availability of water, as well as living factors such as the disappearance of different species through disease, predation, habitat destruction and overuse of resources or the introduction of new species.	<ul style="list-style-type: none"> <li>Predict what may happen to an ecosystem if nonliving factors change (e.g., the amount of light, range of temperatures, or availability of water or habitat), or if one or more populations are removed from or added to the ecosystem.</li> </ul>	SG pp E-41-45; Analysis questions; TG pp E-95-96; Transparency 79.1	<b>Aligned as designed</b>	The unit/lesson is strong in concept of Introduced Species.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 80**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>SYSD</b>	In an open system, matter flows into and out of the system. In a closed system, energy may flow into or out of the system, but matter stays within the system.	<ul style="list-style-type: none"> <li>Given a description of a system, analyze and defend whether it is open or closed.</li> </ul>	TG pp E-107-108 Follow-up	<b>Aligned as designed</b>	Teachers need to emphasize the class discussion from the "Follow-up" to address systems language.
<b>LS2B</b>	Energy flows through an ecosystem from producers (plants) to consumers to decomposers. These relationships can be shown for specific populations in a food web.	<ul style="list-style-type: none"> <li>Analyze the flow of energy in a local ecosystem, and draw a labeled food web showing the relationships among all of the ecosystem's plant and animal populations.</li> </ul>	SG pp E-46, Analysis Questions E-49 all; TG pp E-107-108, Follow-up	<b>Aligned as designed</b>	The unit/lesson is strong in concept of decomposers and reinforces producers and consumer roles in ecosystem.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 81**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>SYSC</b>	The output of one system can become the input of another system.	<ul style="list-style-type: none"> <li>• Give an example of how output of matter or energy from a system can become input for another system</li> </ul>	SG p E-53 Extension 2; TG pp E-122, E-129; Transparency 81.1; Student Sheet 81.2	<b>Aligned with modifications (see comments)</b>	The unit/lesson is an integral part of a learning progression. Teacher must be intentional about use of the terms 'inputs' and 'outputs' when describing photosynthesis.
<b>INQB</b>	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> <li>• Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked.</li> <li>• Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis.</li> <li>• Work collaboratively with other students to carry out the investigations.</li> </ul>	SG p E-52 Part B; TG p E-124	<b>Aligned as designed</b>	
<b>INQC</b>	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> <li>• Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.</li> <li>• Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.</li> <li>• Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.</li> </ul>	SG p E-52 Part B; TG p E-124	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 81**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQD	For an experiment to be valid, all (controlled) variables must be kept the same whenever possible, except for the manipulated (independent) variable being tested and the responding (dependent) variable being measured and recorded. If a variable cannot be controlled, it must be reported and accounted for.	<ul style="list-style-type: none"> <li>Plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables. Determine which variables should be kept the same (controlled), which (independent) variable should be systematically manipulated, and which responding (dependent) variable is to be measured and recorded. Report any variables not controlled and explain how they might affect results.</li> </ul>	SG p E-52 Part B; TG p E-124	<b>Aligned as designed</b>	
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> <li>Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation).</li> <li>Describe the differences between an objective summary of the findings and an inference made from the findings.</li> </ul>	SG p E-52 Part B; TG p E-124	<b>Aligned as designed</b>	
INQG	Scientific reports should enable another investigator to repeat the study to check the results.	<ul style="list-style-type: none"> <li>Prepare a written report of an investigation by clearly describing the question being investigated, what was done, and an objective summary of results. The report should provide evidence to accept or reject the hypothesis, explain the relationship between two or more variables, and identify limitations of the investigation.</li> </ul>	SG p E-52 Part B; TG p E-124	<b>Aligned with modifications (see comments)</b>	Teachers need to emphasize the 'limitations' of the investigation.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 81**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>LS2C</b>	<p>The major source of energy for ecosystems on Earth's surface is sunlight. Producers transform the energy of sunlight into the chemical energy of food through photosynthesis. This food energy is used by plants, and all other organisms to carry on life processes. Nearly all organisms on the surface of Earth depend on this energy source.</p>	<ul style="list-style-type: none"> <li>• Explain how energy from the Sun is transformed through photosynthesis to produce chemical energy in food.</li> <li>• Explain that producers are the only organisms that make their own food. Animals cannot survive without producers because animals get food by eating producers or other animals that eat producers.</li> </ul>	<p>SG pp E-50-53; TG pp E-122; Student Sheet 81.2</p>	<p><b>Aligned as designed</b></p>	<p>Teachers need to emphasize Student Guide Analysis Questions 4 and 5 on p E-53.</p>

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 82**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS1A	All organisms are composed of cells, which carry on the many functions needed to sustain life.	<ul style="list-style-type: none"> <li>• Draw and describe observations made with a microscope showing that plants and animals are made of cells, and explain that cells are the fundamental unit of life.</li> <li>• Describe the functions performed by cells to sustain a living organism (e.g., division to produce more cells, taking in nutrients, releasing waste, using energy to do work, and producing materials the organism needs).</li> </ul>	SG pp E-55-56; TG pp E-141-144; Student Sheet 82.1	<b>Aligned with modifications (see comments)</b>	This unit/lesson is a part of a conceptual sequence. Students are only asked to observe and draw plant cells.
LS1D	Both plant and animal cells must carry on life functions, so they have parts in common, such as nuclei, cytoplasm, cell membranes, and mitochondria. But plants have specialized cell parts, such as chloroplasts and cell walls, which provide plants their overall structure.	<ul style="list-style-type: none"> <li>• Use labeled diagrams or models to illustrate similarities and differences between plant and animal cell structures and describe their functions (e.g., both have nuclei, cytoplasm, cell membranes, and mitochondria, while only plants have chloroplasts and cell walls).</li> </ul>	SG pp E-55-57; TG p E-141-144; Student Sheet 82.1	<b>Aligned with modifications (see comments)</b>	This unit/lesson is a part of a conceptual sequence. Teachers need to emphasize function of cell structures.
LS2D	Ecosystems are continuously changing. Causes of these changes include nonliving factors such as the amount of light, range of temperatures, and availability of water, as well as living factors such as the disappearance of different species through disease, predation, habitat destruction and overuse of resources or the introduction of new species.	<ul style="list-style-type: none"> <li>• Predict what may happen to an ecosystem if nonliving factors change (e.g., the amount of light, range of temperatures, or availability of water or habitat), or if one or more populations are removed from or added to the ecosystem.</li> </ul>	SG p E-57; TG pp E-145-146	<b>Aligned with modifications (see comments)</b>	Teachers need to emphasize Student Guide Analysis Question #6.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 83**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQB</b>	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> <li>• Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked.</li> <li>• Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis.</li> <li>• Work collaboratively with other students to carry out the investigations.</li> </ul>	SG pp E-59-60 Part A; TG pp E-154-155	<b>Aligned as designed</b>	
<b>INQC</b>	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> <li>• Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.</li> <li>• Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.</li> <li>• Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.</li> </ul>	SG pp E-59-60 Part A; TG pp E-154-155	<b>Aligned as designed</b>	
<b>INQD</b>	For an experiment to be valid, all (controlled) variables must be kept the same whenever possible, except for the manipulated (independent) variable being tested and the responding (dependent) variable being measured and recorded. If a variable cannot be controlled, it must be reported and accounted for.	<ul style="list-style-type: none"> <li>• Plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables. Determine which variables should be kept the same (controlled), which (independent) variable should be systematically manipulated, and which responding (dependent) variable is to be measured and recorded. Report any variables not controlled and explain how they might affect results.</li> </ul>	SG pp E-59 -60 Part A; TG pp E-154-155	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 83**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQF</b>	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> <li>• Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation).</li> <li>• Describe the differences between an objective summary of the findings and an inference made from the findings.</li> </ul>	SG p E-64 Analysis Question 1; TG pp E-157	<b>Aligned as designed</b>	
<b>INQG</b>	Scientific reports should enable another investigator to repeat the study to check the results.	<ul style="list-style-type: none"> <li>• Prepare a written report of an investigation by clearly describing the question being investigated, what was done, and an objective summary of results. The report should provide evidence to accept or reject the hypothesis, explain the relationship between two or more variables, and identify limitations of the investigation.</li> </ul>	SG p E-64 Analysis Question 3; TG pp E-158	<b>Aligned with modifications (see comments)</b>	Teachers need to ask students to explain limitations of the investigation.
<b>LS2A</b>	An ecosystem consists of all the populations living within a specific area and the nonliving factors they interact with. One geographical area may contain many ecosystems.	<ul style="list-style-type: none"> <li>• Explain that an ecosystem is a defined area that contains populations of organisms and nonliving factors.</li> <li>• Give examples of ecosystems (e.g., Olympic National Forest, Puget Sound, one square foot of lawn) and describe their boundaries and contents.</li> </ul>	SG pp E-60-65; TG pp E-155-159; Student Sheet 83.1	<b>Aligned as designed</b>	The unit/lesson is strong in nonliving factors.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 84**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQC</b>	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> <li>• Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.</li> <li>• Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.</li> <li>• Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.</li> </ul>	SG pp E-68-69; Student Sheets 84.1; Transparency 84.2; TG pp E-169-171	<b>Aligned as designed</b>	
<b>INQE</b>	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> <li>• Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon.</li> </ul>	SG pp E-67-68; Transparency 84.1; TG pp E-166-168	<b>Aligned as designed</b>	
<b>LS2D</b>	Ecosystems are continuously changing. Causes of these changes include nonliving factors such as the amount of light, range of temperatures, and availability of water, as well as living factors such as the disappearance of different species through disease, predation, habitat destruction and overuse of resources or the introduction of new species.	<ul style="list-style-type: none"> <li>• Predict what may happen to an ecosystem if nonliving factors change (e.g., the amount of light, range of temperatures, or availability of water or habitat), or if one or more populations are removed from or added to the ecosystem.</li> </ul>	SG pp E-66-69; TG pp 166-168	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 85**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQH</b>	Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.	<ul style="list-style-type: none"> <li>• Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias.</li> <li>• Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence.</li> <li>• Engage in reflection and self-evaluation.</li> </ul>	SG p E-73 Stopping to Think 4; TG p E-182	<b>Aligned as designed</b>	
<b>LS2D</b>	Ecosystems are continuously changing. Causes of these changes include nonliving factors such as the amount of light, range of temperatures, and availability of water, as well as living factors such as the disappearance of different species through disease, predation, habitat destruction and overuse of resources or the introduction of new species.	<ul style="list-style-type: none"> <li>• Predict what may happen to an ecosystem if nonliving factors change (e.g., the amount of light, range of temperatures, or availability of water or habitat), or if one or more populations are removed from or added to the ecosystem.</li> </ul>	SG p E-72 Stopping to Think 3; SG p E-73 Analysis Question 1C; TG p E182	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 86**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQB</b>	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> <li>• Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked.</li> <li>• Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis.</li> <li>• Work collaboratively with other students to carry out the investigations.</li> </ul>	SG p E-76 Analysis Questions; TG pp E- 188-190	<b>Aligned with modifications (see comments)</b>	The unit/lesson intentionally refers to a field study as a means for student observation and generating questions about an ecosystem.
<b>LS2A</b>	An ecosystem consists of all the populations living within a specific area and the nonliving factors they interact with. One geographical area may contain many ecosystems.	<ul style="list-style-type: none"> <li>• Explain that an ecosystem is a defined area that contains populations of organisms and nonliving factors.</li> <li>• Give examples of ecosystems (e.g., Olympic National Forest, Puget Sound, one square foot of lawn) and describe their boundaries and contents.</li> </ul>	SG p E-75 Procedures; TG p E- 187	<b>Aligned as designed</b>	
<b>LS2B</b>	Energy flows through an ecosystem from producers (plants) to consumers to decomposers. These relationships can be shown for specific populations in a food web.	<ul style="list-style-type: none"> <li>• Analyze the flow of energy in a local ecosystem, and draw a labeled food web showing the relationships among all of the ecosystem's plant and animal populations.</li> </ul>	SG p E-75 Procedure #6; TG p E-188	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 87**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>LS2E</b>	Investigations of environmental issues should uncover factors causing the problem and relevant scientific concepts and findings that may inform an analysis of different ways to address the issue.	<ul style="list-style-type: none"> <li>• Investigate a local environmental issue by defining the problem, researching possible causative factors, understanding the underlying science, and evaluating the benefits and risks of alternative solutions.</li> <li>• Identify resource uses that reduce the capacity of ecosystems to support various populations (e.g., use of pesticides, construction).</li> </ul>	SG p E-80 Analysis; Student Sheet 87.1	<b>Aligned as designed</b>	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Ecology ~ Activity 88**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<b>INQC</b>	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> <li>• Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.</li> <li>• Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.</li> <li>• Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.</li> </ul>	SG pp 18-19, TG p G-33	<b>Aligned as designed</b>	Students are asked to develop a classification system from data they are given and analyze while identifying patterns in data sets.
<b>INQH</b>	Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.	<ul style="list-style-type: none"> <li>• Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias.</li> <li>• Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence.</li> <li>• Engage in reflection and self-evaluation.</li> </ul>	SG p E-82 Procedures, E-83 Analysis; Transparency 88.1	<b>Aligned as designed</b>	
<b>LS2E</b>	Investigations of environmental issues should uncover factors causing the problem and relevant scientific concepts and findings that may inform an analysis of different ways to address the issue.	<ul style="list-style-type: none"> <li>• Investigate a local environmental issue by defining the problem, researching possible causative factors, understanding the underlying science, and evaluating the benefits and risks of alternative solutions.</li> <li>• Identify resource uses that reduce the capacity of ecosystems to support various populations (e.g., use of pesticides, construction).</li> </ul>	SG p E-82 Procedures, E-83 Analysis; Transparency 88.1	<b>Aligned as designed</b>	