WASHINGTON STATE LASER

Alignment of Washington 6-8 Science Standards by EALR/Domain for

FOSS/MS

Populations & Ecosystems

November 1, 2010

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSA

Content Standard Any system may be thought of as containing subsystems and as being a subsystem of a larger system.

Performance Expectation • Given a system, identify subsystems and a larger encompassing system

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 02	**Aligned with modifications (see comments)**	Investigation 2 pp 72-79	Teacher must be intentional about the use of the term system and subsystem. Teacher must be intentional about using the terms input and output of matter and energy when looking at the system.
Investigation 03	**Aligned with modifications (see comments)**	Pages 94-107; Resource book pp 8-13	Teacher must be intentional about the use of the term systems and subsystems. The reading contains opportunities to address the standard but the teacher must be intentional focusing students on the systems presented on pp 12 and 13.
Investigation 04	**Aligned with modifications (see comments)**	pp 121-129	Teacher must be intentional about the use of the term systems and subsystems.
Investigation 05	**Aligned with modifications (see comments)**	Investigation 5 pp 146-169	Teacher must be intentional about the use of the term system and subsystem. Teacher must be intentional about using the terms input and output of matter and energy when looking at the system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSA

Content Standard Any system may be thought of as containing subsystems and as being a subsystem of a larger system.

Performance Expectation • Given a system, identify subsystems and a larger encompassing system

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 06	**Aligned with modifications (see comments)**	Investigation 6 part 3 pp 191-197	Teacher must be intentional about the use of the term systems and subsystems.
Investigation 07	**Aligned with modifications (see comments)**	pp 214-217	Teacher must be intentional about the use of the term systems and subsystems.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSB

Content Standard The boundaries of a system can be drawn differently depending on the features of the system being investigated, the size of the system, and the purpose of the investigation.

Performance Expectation • Explain how the boundaries of a system can be drawn to fit the purpose of the study (e.g., to study how insect populations change, a system might be a forest, a meadow in the forest, or a single tree).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 01	**Aligned with modifications (see comments)**	Investigation 1 pp 42-59	This is part of a learning progression moving from a simple habitat to studies of larger ecosystems. Teacher must be intentional about the use of the term system and subsystem. Teacher must be intentional about using the term boundaries when looking at the system.
Investigation 02	**Aligned with modifications (see comments)**	Investigation 2 pp 72-29	Teacher must be intentional about the use of the term system and subsystem. Teacher must be intentional about using the term boundaries when looking at the system.
Investigation 03	**Aligned with modifications (see comments)**	Investigation 3 pp 92-107; Resource book pp 12-13	Teacher must be intentional about the use of the term system and subsystem. The reading contains opportunities to address the standard but the teacher must be intentional about using the terms system, subsystem, and boundaries when looking at the systems mentioned on pages 12-13. An alternate lesson can be found at: EcoColumns http://www.pcc.edu/about/faculty/sustainability-training/documents /ecosystem-in-a-bottle.pdf
Investigation 04	**Aligned with modifications (see comments)**	Investigation 4 pp 120-129	Teacher must be intentional about the use of the term system and subsystem. Teacher must be intentional about using the term boundaries when looking at the system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSB

Content Standard The boundaries of a system can be drawn differently depending on the features of the system being investigated, the size of the system, and the purpose of the investigation.

Performance Expectation • Explain how the boundaries of a system can be drawn to fit the purpose of the study (e.g., to study how insect populations change, a system might be a forest, a meadow in the forest, or a single tree).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	Investigation 5 pp 146-169	Teacher must be intentional about the use of the term system and subsystem. Teacher must be intentional about using the term boundaries when looking at the system.
Investigation 07	**Aligned with modifications (see comments)**	Investigation 7 pp 214-217	Teacher must be intentional about the use of the term system and subsystem. Teacher must be intentional about using the boundaries when looking at the system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSC

Content Standard The output of one system can become the input of another system.

Performance Expectation • Give an example of how output of matter or energy from a system can become input for another system

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 01	**Aligned with modifications (see comments)**	pp 41-59	This is part of a learning progression moving from a simple habitat to studies of larger ecosystems. Teacher must be intentional about the use of the terms systems, subsystems, and boundaries. Teacher must be intentional about using the terms input and output when looking at the system.
Investigation 02	**Aligned with modifications (see comments)**	pp 72-79	Teacher must be intentional about the use of the terms systems, subsystems, and boundaries. Teacher must be intentional about using the terms input and output when looking at the system.
Investigation 03	**Aligned with modifications (see comments)**	pp 94-107	Teacher must be intentional about the use of the terms systems, subsystems, and boundaries. Teacher must be intentional about using the terms input and output when looking at the system.
Investigation 04	**Aligned with modifications (see comments)**	pp 121-129	Teacher must be intentional about the use of the terms systems, subsystems, and boundaries. Teacher must be intentional about using the terms input and output when looking at the system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSC

Content Standard The output of one system can become the input of another system.

Performance Expectation • Give an example of how output of matter or energy from a system can become input for another system

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	pp 146-169.	Teacher must be intentional about the use of the terms systems, subsystems, and boundaries. Teacher must be intentional about using the terms input and output when looking at the system.
Investigation 07	**Aligned with modifications (see comments)**	pp 214-217	Teacher must be intentional about the use of the term systems, subsystems, and boundaries. Teacher must be intentional about using the terms input and output when looking at the system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSD

Content Standard 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.

Performance Expectation • Given a description of a system, analyze and defend whether it is open or closed.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 01	**Aligned with modifications (see comments)**	pp 42-59	This is part of a learning progression moving from a simple habitat to studies of larger ecosystems. Teacher must be intentional about the use of the term systems, subsystems, boundaries, input and output. The investigation contains many opportunities to discuss matter, energy, closed system and open system.
Investigation 02	**Aligned with modifications (see comments)**	pp 72-79	Teacher must be intentional about the use of the term systems, subsystems, boundaries, input and output. The investigation contains many opportunities to discuss matter, energy, closed system and open system.
Investigation 03	**Aligned with modifications (see comments)**	Investigation 3 pp 94-107; Resource book pp 8-13	Teacher must be intentional about the use of the term systems, subsystems, boundaries, input and output. The investigation and reading contains many opportunities to discuss matter, energy, closed system and open system.
Investigation 04	**Aligned with modifications (see comments)**	pp 121-129	Teacher must be intentional about the use of the term systems, subsystems, boundaries, input and output. The investigation contains many opportunities to discuss matter, energy, closed system and open system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSD

Content Standard 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.

Performance Expectation • Given a description of a system, analyze and defend whether it is open or closed.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	pp 146-169	Teacher must be intentional about the use of the term systems, subsystems, boundaries, input and output. The investigation contains many opportunities to discuss matter, energy, closed system and open system.
Investigation 07	**Aligned with modifications (see comments)**	Investigation 7 pp 214-217	Teacher must be intentional about the use of the term systems, subsystems, boundaries, input and output. The investigation contains many opportunities to discuss matter, energy, closed system and open system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSE

Content Standard If the input of matter or energy is the same as the output, then the amount of matter or energy in the system won't change; but if the input is more or less than the output, then the amount of matter or energy in the system will change.

Performance Expectation • Measure the flow of matter into and out of an open system and predict how the system is likely to change (e.g., a bottle of water with a hole in the bottom, an ecosystem, an electric circuit).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	Investigation 5 part 1 pp 146-150; Lab Notebook pp 22-23; part 2 pp 153-155; Lab Notebook p 25; part 4 pp 164-169	Teacher must be intentional about the use of the term systems, subsystems, boundaries, flows, input and output. The investigation contains many opportunities to discuss matter, energy, closed system and open system.
Investigation 06	**Aligned with modifications (see comments)**	pp 180-197; Lab Notebook pp 31-41	Teacher must be intentional about the use of the term systems, subsystems, boundaries, flows, input and output. The investigation contains many opportunities to discuss matter, energy, closed system and open system.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Systems ~ SYSF

Content Standard 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.”

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 03	**Aligned as designed**	Resource book pp 8-13 (Questions on p 13)	
Investigation 07	**Aligned as designed**	pp 214-217; Lab Notebook pp 42-44	

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Inquiry ~ INQA

Content Standard Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.

Performance Expectation • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	Part 1 pp 146-150; Lab Notebook pp 22-23; Part 2 pp 153-155; Lab Notebook p 25	The teacher needs to intentionally take advantage of the opportunities to address asking questions in terms of the scientific method.
Investigation 06	**Aligned with modifications (see comments)**	Part 1 pp 181-186; Lab Notebook pp 31-33; Part 2 pp 189-190; Lab Notebook pp 35-37	The lesson contains opportunities to address the standards but the teacher must be intentional about leading students to independently use the components of the scientific method (i.e., writing own question).

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Inquiry ~ INQB

Content Standard Different kinds of questions suggest different kinds of scientific investigations.

Performance Expectation
• 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.
• Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis.
• Work collaboratively with other students to carry out the investigations.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	Investigation 5 Part 1 pp 146-150; Lab Notebook pp 22-23; Part 2 pp 153-155; Lab Notebook p 25	The teacher needs to intentionally take advantage of the opportunities to address planning and conducting scientific investigations in terms of the scientific method.
Investigation 06	**Aligned with modifications (see comments)**	Investigation 6 part 1 pp 181-186; Lab Notebook pp 31-33; part 2 pp 188-191; Lab Notebook pp 34-37	The lesson contains opportunities to address the standards but the teacher must be intentional about leading students to independently use the components of the scientific method (i.e., writing own question and propose a hypothesis).
Investigation 08	**Aligned with modifications (see comments)**	Investigation 8 part 2 pp 234-243; Lab Notebook pp 51-53	The lesson contains opportunities to address the standards but the teacher must be intentional about leading students to independently use the components of the scientific method (i.e., writing own question and propose a hypothesis).

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Inquiry ~ INQC

Content Standard Collecting, analyzing, and displaying data are essential aspects of all investigations.

Performance Expectation
• Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.
• Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.
• Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	Investigation 5 Part 1 pp 146-150; Lab Notebook pp 22-23; Part 2 pp 153-155; Lab Notebook p 25	The teacher needs to intentionally take advantage of the opportunities to address the standard in terms of the scientific method.
Investigation 08	**Aligned with modifications (see comments)**	Investigation 8 part 2 pp 234-243; Lab Notebook pp 51-53	The teacher needs to intentionally take advantage of the opportunities to address the standard in terms of the scientific method.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Inquiry ~ INQD

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 06	**Aligned with modifications (see comments)**	Part 1 pp 181-186; Lab Notebook pp 31-33; Part 2 pp 188-191; Lab Notebook pp 34-37	The lesson contains opportunities to address the standards but the teacher must be intentional about leading students to independently use the components of the scientific method (i.e., opportunity to identify variables).

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Inquiry ~ INQF

Content Standard It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.

Performance Expectation
• Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation).
• Describe the differences between an objective summary of the findings and an inference made from the findings.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned with modifications (see comments)**	Part 2 pp 152-156; Lab Notebook p 25	The lesson contains an opportunity to address the standard but the teacher must be intentional in addressing the differences between results and general conclusions.
Investigation 06	**Aligned with modifications (see comments)**	Investigation 6 Part 1 pp 181-186; Lab Notebook pp 31-33; Part 2 pp 188-191; Lab Notebook pp 34-37	The lesson contains opportunities to address the standards but the teacher must be intentional in addressing the differences between results and general conclusions.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Application ~ APPA

Content Standard People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.

Performance Expectation • Describe how a technology has changed over time in response to societal challenges.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 03	**Aligned with modifications (see comments)**	Resource book pp 8-13	The reading contains an opportunity to discuss this standard.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Application ~ APPB

Content Standard Scientists and technological designers (including engineers) have different goals. Scientists answer questions about the natural world; technological designers solve problems that help people reach their goals.

Performance Expectation • Investigate several professions in which an understanding of science and technology is required. Explain why that understanding is necessary for success in each profession.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 03	**Aligned with modifications (see comments)**	Resource book pp 8-13	This reading contains many opportunities to discuss several professions such as biologist, engineer, chemist, etc.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Application ~ APPC

Content Standard Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods.

Performance Expectation • Give examples to illustrate how scientists have helped solve technological problems (e.g., how the science of biology has helped sustain fisheries) and how engineers have aided science (e.g., designing telescopes to discover distant planets).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 03	**Aligned with modifications (see comments)**	Resource book pp 8-13	Teacher must be intentional about sharing examples of how scientists and technology have played a role in this reading. Teacher questioning should elicit student understanding of the roles that scientists and engineers play in Biosphere 2.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Application ~ APPE

Content Standard Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.

Performance Expectation • Collaborate with other students to generate creative solutions to a problem, and apply methods for making tradeoffs to choose the best solution.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 03	**Aligned with modifications (see comments)**	Resource book pp 8-13	The unit/ lesson contains many opportunities to discuss how scientists and engineers work together to solve problems. Teachers need to ask students to explain where in the text they find evidence that scientists and engineers worked together to solve problems and possibly come up with their own solutions if none is given.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Application ~ APPF

Content Standard Solutions must be tested to determine whether or not they will solve the problem. Results are used to modify the design, and the best solution must be communicated persuasively.

Performance Expectation
• Test the best solution by building a model or other representation and using it with the intended audience. Redesign as necessary.
• Present the recommended design using models or drawings and an engaging presentation.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 03	**Aligned with modifications (see comments)**	Investigation 3 Parts 1-3 pp 94-107; Resource book pp 8-13	The lesson contains opportunities to address the standard but the teacher must be intentional in giving the students the opportunity to go further. Students identify a problem within their ecosystem, test possible solutions, and present recommendations to solve problem. Alternate lesson can be found at: EcoColumns http://www.pcc.edu/about/faculty/sustainability-training/ documents/ecosystem-in-a-bottle.pdf
Investigation 07	**Module/Unit requires changes (see comments)**	Extension p 218	The extension contains opportunities to address the standard but the teacher must be intentional in giving students the opportunity to go further. Students could suggest a solution to their issue then create a model for their solution. This would be a great opportunity for differentiation for students that are ready for a challenge.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Physical Science ~ PS3A

Content Standard Energy exists in many forms: heat, light, chemical, electrical, motion of objects, and sound. Energy can be transformed from one form to another and transferred from one place to another.

Performance Expectation
• List different forms of energy (e.g., thermal, light, chemical, electrical, kinetic, and sound energy).
• Describe ways in which energy is transformed from one form to another and transferred from one place to another (e.g., chemical to electrical energy in a battery, electrical to light energy in a bulb).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 04	**Module/Unit requires changes (see comments)**	pp 121-129	The unit contains many opportunities address the standards but the teacher must be intentional in using the terms energy, energy transfer, and energy transformations and include activities for these ideas.
Investigation 05	**Aligned with modifications (see comments)**	pp 146-169; Resource book pp 14-21	The unit contains many opportunities address the standards but the teacher must be intentional in using the terms energy, energy transfer, and energy transformations and include activities for these ideas. Teacher must be intentional about using the reading materials.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS2A

Content Standard 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.

Performance Expectation • Explain that an ecosystem is a defined area that contains populations of organisms and nonliving factors.
• Give examples of ecosystems (e.g., Olympic National Forest, Puget Sound, one square foot of lawn) and describe their boundaries and contents.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 02	**Aligned as designed**	Investigation 2 parts 1-2 pp 72-79; Resource book pp 6-7; Lab Notebook pp 11, 13. Video: Among the Chimpanzees	Investigation 1 is an integral part of the learning progression.
Investigation 03	**Aligned as designed**	Investigation 3: parts 1-3 pp 94-107; Resource book pp 8-13, 64-68; Lab Notebook pp 15-17; CD ROM: Organism Database	Alternate Lesson: Eco columns http://www.pcc edu/about/faculty/sustainability-training/documents/ecosystem-in-a-bottle.pdf
Investigation 04	**Aligned as designed**	Investigation 4 part 1 p 121; Lab Notebook p 19; Video: Of Ice and Fire: A Portrait of the Mono Basin	

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS2B

Content Standard Energy flows through an ecosystem from producers (plants) to consumers to decomposers. These relationships can be shown for specific populations in a food web.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 04	**Aligned as designed**	Investigation 4 part 2 pp 124-129; Lab Notebook p 21; CD ROM: Ecoscenarios, Mono Lake, Food Webs	
Investigation 05	**Aligned as designed**	Investigation 5 parts 1-4, pp 146-169; Resource book pp 14-21; Lab Notebook pp 23 and 24	
Investigation 07	**Aligned as designed**	Investigation 7 pp 214-217; Resource book pp 30-41; Lab Notebook pp 42-44; CD ROM: Ecoscenarios, Food Web Simulations for Ecoscenarios	

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS2C

Content Standard

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.

Performance Expectation

• Explain how energy from the Sun is transformed through photosynthesis to produce chemical energy in food.
• 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 05	**Aligned as designed**	Investigation 5 parts 1-4 pp 146-169; Resource book pp 14-21; Lab Notebook pp 23-24	

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS2D

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 06	**Aligned as designed**	Investigation 6 parts 1-3 pp 179-198; CD ROM: "Milkweed Bugs", "Unlimited & Limited"; Resource book pp 22-30; Lab Notebook pp 27, 29, 31-41	
Investigation 07	**Aligned as designed**	Investigation 7 pp 214-217; Resource book pp 30-41; Lab Notebook pp 42-44; CD ROM: Ecoscenarios, Food Web Simulations For Ecoscenarios	Teacher needs to be intentional about asking students to explain changes in the ecosystem (seasonal, etc.). This is a good place for the teacher to refer back to the Mono Lake scenario.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS2E

Content Standard 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.

Performance Expectation
• 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.
• Identify resource uses that reduce the capacity of ecosystems to support various populations (e.g., use of pesticides, construction).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 03	**Aligned as designed**	Investigation 3; Resource book pp 8-13	Teacher and students must make use of information found in the reading in the resource book to meet this standard.
Investigation 07	**Aligned as designed**	Investigation 7 pp 214-217; Resource book pp 30-41; Lab Notebook pp 42-44; CD ROM: Ecoscenarios, Food Web Simulations For Ecoscenarios	

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS3A

Content Standard The scientific theory of evolution underlies the study of biology and explains both the diversity of life on Earth and similarities of all organisms at the chemical, cellular, and molecular level. Evolution is supported by multiple forms of scientific evidence.

Performance Expectation • Explain and provide evidence of how biological evolution accounts for the diversity of species on Earth today.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 10	**Module/Unit requires changes (see comments)**	pp 305-317	The unit contains many opportunities address the standards but the teacher must be intentional in using the terms theory of evolution, diversity of life. Teacher must make use of information found in Scientific and Historical Background pp 296-301.

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS3B

Content Standard Every organism contains a set of genetic information (instructions) to specify its traits. This information is contained within genes in the chromosomes in the nucleus of each cell.

Performance Expectation • Explain that information on how cells are to grow and function is contained in genes in the chromosomes of each cell nucleus and that during the process of reproduction the genes are passed from the parent cells to offspring.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 09	**Aligned as designed**	Investigation 9 parts 1-4 pp 262-291; Resource book pp 46-57; Lab Notebook pp 55-65	An extension that can be used is: Design-a-Kid: http://reocities.com/Athens/Parthenon/1020/parenthood.html

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS3C

Content Standard Reproduction is essential for every species to continue to exist. Some plants and animals reproduce sexually while others reproduce asexually. Sexual reproduction leads to greater diversity of characteristics because offspring inherit genes from both parents.

Performance Expectation
• Identify sexually and asexually reproducing plants and animals.
• Explain why offspring that result from sexual reproduction are likely to have more diverse characteristics than offspring that result from asexual reproduction.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 09	**Aligned with modifications (see comments)**	pp 263-291	Covers sexual reproduction only. Additional information about asexual reproduction would need to be added. An extension lesson is: Design-a-Kid at: http://reocities.com/Athens /Parthenon/1020/parenthood.html

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS3D

Content Standard In sexual reproduction the new organism receives half of its genetic information from each parent, resulting in offspring that are similar but not identical to either parent. In asexual reproduction just one parent is involved, and genetic information is passed on nearly unchanged.

Performance Expectation • Describe that in sexual reproduction the offspring receive genetic information from both parents, and therefore differ from the parents. • Predict the outcome of specific genetic crosses involving one characteristic (using principles of Mendelian genetics). • Explain the survival value of genetic variation.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 09	**Aligned with modifications (see comments)**	pp 263-291	Covers sexual reproduction only. Additional information about asexual reproduction would need to be added. Resource book pages 46-55 covers Mendelian Genetics. An extension lesson is: Design-a-Kid at: http://reocities.com/Athens/Parthenon/1020/parenthood.html

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS3E

Content Standard Adaptations are physical or behavioral changes that are inherited and enhance the ability of an organism to survive and reproduce in a particular environment.

Performance Expectation • Give an example of a plant or animal adaptation that would confer a survival and reproductive advantage during a given environmental change.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 08	**Aligned as designed**	Investigation 8 parts 1 and 2 pp 230-243; Resource book pp 42-45; Lab Notebook pp 49, 51-53; CD ROM: Organism Database, Octopus Color Change, Walking Stick Predation; Video: Strangers in Paradise	

Alignment of Washington 6-8 Science Standards with
FOSS/MS Populations & Ecosystems
Life Science ~ LS3F

Content Standard Extinction occurs when the environment changes and the adaptive characteristics of a species, including its behaviors, are insufficient to allow its survival.

Performance Expectation • Given an ecosystem, predict which organisms are most likely to disappear from that environment when the environment changes in specific ways.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Investigation 10	**Aligned with modifications (see comments)**	Investigation 10 parts 1-3 pp 305-317; Resource book pp 58-63; Lab Notebook pp 66-71, 73; Video: Voyage to the Galapagos; CD ROM: Larkeys, Natural Selection, Larkeys, Selective Breeding, Walkingstick Predation.	The lesson contains opportunities for the use of the term extinction, adaptive characteristics, and species but it requires the intentional use by teacher.