

Standards connections

Standard	Module 1	Module 2	Module 3	Module 4	Module 5
Oregon Science Standards, Performance Expectations					
HS.ESS3.1: Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.	● (Activity)	● (Activity D)	● (Activities A and E)		● (Activities A, B, field trips and final project)
HS.ESS3.3: Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.		● (Activities E, F and field trip)	● (Activities D, E and field trips)	● (Activities A, B, C, D and field trip)	● (Activity B, field trips and final project)
HS.ETS1.1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.					● (Activities B, C, field trips and final project)
Oregon Science Standards, Disciplinary Core Ideas					
ESS3.B: Natural Hazards. Natural hazards and other geologic events have shaped the course of human history; they have significantly altered the sizes of human populations and have driven human migrations.	● (Activity)				● (Activities A, B, field trips and final project)
ESS3.C: Human Impacts on Earth Systems. The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources.		● (Activities E, F and field trip)	● (Activities D, E and field trips)	● (Activities A, B, C, D and field trip)	● (Activity B, field trips and final project)
LS2.A: Interdependent Relationships in Ecosystems. Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem.		● (Activities C, D and field trip)			

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<p>LS2.C: Ecosystem Dynamics, Functioning, and Resilience. A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability.</p>	<p>● (Activity)</p>		<p>● (Activities A, B, C, D, E and field trips)</p>		
<p>LS2.C: Ecosystem Dynamics, Functioning, and Resilience. Moreover, anthropogenic changes (induced by human activity) in the environment—including habitat destruction, pollution, introduction of invasive species, overexploitation, and climate change—can disrupt an ecosystem and threaten the survival of some species.</p>			<p>● (Activities D, E and field trips)</p>		
<p>LS4.C: Adaptation. Changes in the physical environment, whether naturally occurring or human induced, have thus contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline—and sometimes the extinction—of some species.</p>		<p>● (Activity D and field trip)</p>	<p>● (Activity C and field trips)</p>		
<p>LS4.D: Biodiversity and Humans. Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.</p>			<p>● (Activities D, E and field trips)</p>		
<p>ETS1.B: Developing Possible Solutions. When evaluating solutions it is important to take into account a range of constraints including cost, safety, reliability and aesthetics and to consider social, cultural and environmental impacts.</p>				<p>● (Activities B, C and field trip)</p>	<p>● (Activity B, Field trips and final project)</p>
<p>Oregon Science Standards, Science and Engineering Practices</p>					
<p>2. Developing and Using Models. Develop and/or use a model (including mathematical and computational) to generate data to support explanations, predict phenomena, analyze systems, and/or solve problems.</p>	<p>● (Activity)</p>				
<p>3. Planning and Carrying Out Investigations. Plan an investigation or test a design individually and collaboratively to produce data to serve as the basis for evidence as part of building and revising models, supporting explanations for phenomena, or testing solutions to problems. Consider possible confounding variables or effects and evaluate the investigation’s design to ensure variables are controlled.</p>		<p>● (Activities A, B, C and D and field trip)</p>	<p>● (Activities A, B and field trips)</p>		

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3. Planning and Carrying Out Investigations. Select appropriate tools to collect, record, analyze, and evaluate data.		● (Activity F and field trip)	● (Field trips)	● (Activities A, B, C and field trip)	
6. Constructing Explanations and Designing Solutions. Apply scientific ideas, principles, and/or evidence to provide an explanation of phenomena and solve design problems, taking into account possible unanticipated effects.		● (Activities C, D and field trip)	● (Activities A, B and field trips)	● (Activities A, B, C and field trip)	● (Activity B, field trips and final project)
7. Engaging in Argument from Evidence. Make and defend a claim based on evidence about the natural world or the effectiveness of a design solution that reflects scientific knowledge and student-generated evidence.	● (Activity)	● (Activity E and field trip)	● (Activities A, B and D)		
8. Obtaining, Evaluating, and Communicating Information. Communicate scientific and/or technical information or ideas (e.g. about phenomena and/or the process of development and the design and performance of a proposed process or system) in multiple formats (i.e., orally, graphically, textually, mathematically).					● (Final project)
Oregon English Language Arts Standards					
9-10.SL.1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.	● (Activity)	● (Activities A, D, E)	● (Activities A, B, D, E and field trips)	● (Activities A, B, C, D and field trip)	● (Activity B, field trips and final project)
11-12.SL.1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.	● (Activity)	● (Activities A, D, E)	● (Activities A, B, D, E and field trips)	● (Activities A, B, C, D and field trip)	● (Activity B, field trips and final project)
9-10.W.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	● (Activity)	● (Activity E and field trip)	● (Activities A, B, D)		

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11-12.W.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	● (Activity)	● (Activity E and field trip)	● (Activities A, B, D)		
9-10.W.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.				● (Activity D)	● (Final project)
11-12.W.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.				● (Activity D)	● (Final project)
Oregon Standards for Literacy in History/Social Studies and Science and Technical Subjects					
9-10.WHST.1. Write arguments focused on discipline-specific content.	● (Activity)	● (Activity E and field trip)	● (Activities A, B and D)		
11-12.WHST.1. Write arguments focused on discipline-specific content.	● (Activity)	● (Activity E and field trip)	● (Activities A, B and D)		
Oregon CTE Knowledge and Skills Statements					
KSS.A: Survey and measure natural resource environments.		● (Activities A, B, C, D and field trip)			
KSS.B: Assist in preparation and implementation of natural resource environment management plans. [In Activities D, E of this module.]			● (Activities D, E)		
KSS.C. Supervise the protection of natural resource environments and woodlands.			● (Field trips)	● (Activities A, B, C and field trip)	● (Field trips)

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KSS.H. Describe ecological concepts and principles; investigate and explain the relationships between these principles and natural resource environment development.	● (Activity)	● (Activities A, B, C, D and field trip)	● (Activities A, B, C, E and field trips)	● (Activities B, D and field trip)	● (Activities A, B, field trips and final project)
KSS.L: Acquire the specific academic knowledge and skills necessary to pursue a full range of career and post-secondary opportunities within natural resources management.	● (Activity)	● (Activities A, B, C, D, E, F and field trip)	● (Activities A, B, C, D, E and field trips)	● (Activities A, B, C, D and field trip)	● (Activities A, B, field trips and final project)
KSS.M: Use oral and written communication skills in creating, expressing and interpreting natural resource management information and ideas including technical terminology.	● (Activity)	● (Activities A, D, E and field trip)	● (Activities A, B, D)	● (Activities A, B, C and field trip)	● (Activity B, field trips and final project)
KSS.O: Know and understand the importance of employability skills for careers in natural resources. [In Activities E, F of this module.]		● (Activities E, F)	● (Field trips)	● (Activity D and field trip)	