### Eagle/Elk Teacher Guide: Correlations to Environment and Ecology Standards unless noted

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<tr>
<th>Activity/Grade Level</th>
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4.7.4B Know that adaptations are important for survival.  
4.7.7B Explain how species of living organism adapt to their environment.  
4.7.10A Identify a species and explain how its adaptations are related to its niche in the environment.  
4.7.10B Explain how structure, function and behavior of plants and animals affect their ability to survive.  
**Environment and Ecology Standards 2009**  
4.1.4A Explain how living things are dependent upon other living and nonliving things for survival.  
4.7.7B Explain how an adaptation is an inherited structure, function or behavior that helps an organism survive and reproduce.  
**Science and Technology and Engineering Standards**  
3.1.4.A1 Describe the similarities and differences of physical characteristics in plants and animals.  
3.1.4.B5 Identify observable patterns in the physical characteristics of plants or groups of animals.  
3.1.7.A1 Describe the similarities and differences of physical characteristics in diverse organisms.  
3.1.7.B5 Compare and contrast observable patterns in the physical characteristics across families, strains and species. |
| **Grades 4-8**       | S4.B.2.1 | S8.B.1.1 |
4.6.4A Understand the components of a food chain.  
4.6.7A Explain energy flow through a food web.  
4.6.10A Explain possible causes of population fluctuations.  
4.6.10B Identify a specific environmental impact and predict what change may take place to affect homeostasis.  
4.7.4B Explain what happens to a living thing when its food, water, shelter or space is changed.  
4.7.7C Explain natural or human actions in relation to the loss of species.  
4.7.10C Explain factors that could lead to a species increase or decrease.  
4.7.10C Explain how management practices may influence the success of a specific species.  
**Environment and Ecology Standards 2009**  
4.5.6D Identify reasons why organisms become threatened, endangered, and extinct.  
4.5.7C Explain how humans actions affect the health of the environment.  
**Science and Technology and Engineering Standards**  
3.1.3.A5 Describe common functions living things share to help them function in a specific environment.  
3.1.6.A5 Describe basic structures that plants and animals have that contribute to their ability to make or find food and reproduce.  
3.1.4.B.5 Identify observable patterns in the physical characteristics of plants or groups of animals.  
3.1.7.B5 Compare and contrast observable patterns in the physical characteristics across families, strains and species. |
| **Hazardous Links**  | S.6.B.3.1 | S8.B.3.1 |
| **Grades 3-9**       | S8.B.3.2 | **Environment and Ecology Standards (2002)**  
4.7.4B Explain what happens to a living thing when its food, water, shelter or space is changed.  
4.7.7C Explain natural or human actions in relation to the loss of species.  
4.7.10C Explain factors that could lead to a species increase or decrease.  
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**Science and Technology and Engineering Standards**  
3.1.3.A5 Describe common functions living things share to help them function in a specific environment.  
3.1.6.A5 Describe basic structures that plants and animals have that contribute to their ability to make or find food and reproduce.  
3.1.4.B.5 Identify observable patterns in the physical characteristics of plants or groups of animals.  
3.1.7.B5 Compare and contrast observable patterns in the physical characteristics across families, strains and species. |
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4.7.7C Explain how management practices may influence the success of a species  
4.7.7C: Explain factors that could lead to a species' increase or decrease.  
4.6.10A Explain possible causes of population fluctuations  
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4.6.10A Explain possible causes of population fluctuations  
4.8.4 Identify the biological requirement of humans  
4.8.7 Describe how the development of civilization relates to the environment  
4.8.10 Explain how society's needs relate to the sustainability of natural resources.  
4.8.10D Explain how the concept of supply and demand affects the environment.  
Environment and Ecology Standards 2009  
4.5.6A Examine how historical events have shaped the sustainable use of natural resources  
4.5.7A Describe how the development of civilization affects the use of natural resources  
4.5.10A Explain how public policy encourages or discourages the sustainable use of natural resources.  
4.3.7 Differentiate between resources uses: conservation, preservation and exploitation.  
Science Standards  
Reading in Science and Technical Subjects  
CC.1.2.5E Use text structure in and among texts to interpret information.  
CC.3.5.6-8H Distinguish among facts, reasoned judgment based on research findings and speculation in a text.  
CC.3.5.9-10J By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.  

4.7.4 Know that adaptations are important for survival.  
4.7.4B Describe and organism's adaptations for survival in its habitat  
4.7.7B Explain how species of living organism adapt to their environment.  
4.7.10B Explain how structure, function and behavior of plants and animals affect their ability to survive.  
4.6.7A Understand limiting factors and predict their effects on an organism  
4.6.10A Explain how the availability of resources affects organisms in an ecosystem.  
Environment and Ecology Standards 2009  
4.5.4S Explain how specific adaptations can help organisms survive in their habitat.  
4.5.7D Explain how an adaptation is an inherited structure, function or behavior that helps an organism survive and reproduce.  
Science and Technology and Engineering Standards  
3.1.4.A2 Describe the different resources that plants and animals need to live  
3.1.7.A2 Describe how organisms obtain and use energy throughout their lives.  

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4.6.4A Understand the components of chain  
4.6.7A Understand limiting factors and predict their affects on an organism  
4.6.10A Explain the concept of carry capacity in an ecosystem  
4.6.12A Explain limiting factors and their impact on carrying capacity  
*Environment and Ecology Standards 2009*  
4.1.4A Explain how living things are dependent upon other living and nonliving things for survival.  
4.1.10A Examine the effects of limiting factors on population dynamics  
Scientific Inquiry 4.1.5 F-4.1.10F |
| Let’s Ruminate Grades 5-12 | S8.B.1.1 | *Environment Inquiry (2002)*  
4.7.4B Describe and organism’s adaptations for survival in its habitat  
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4.6.10A Explain possible causes of population fluctuations  
4.7.7C Explain natural or human actions in relation to the loss of species  
4.7.10C Explain factors that could lead to a species’ increase or decrease  
4.7.10B Explain how management strategies regarding threatened or endangered species may influence the success of a specific species  
4.7.12C Examine the influence of wildlife management on preserving different Pennsylvania species  
*Environment and Ecology Standards 2009*  
4.1.10A Examine the effects of limiting factors on population dynamics  
4.3.7 Explain the distribution of management of natural resources  
4.5.6D Identify reasons why organisms become threatened, endangered, and extinct  
4.10.A Examine the effects of limiting factors on population dynamics  
4.5.6A Examine how historical events have shaped the sustainable use of natural resources  
4.5.7A Describe how the development of civilization affects the use of natural resources |
Environment and Ecology Legal Standards
(2002) State Board of Education
4.6 Ecosystems and their Interactions
4.7 Threatened, Endangered and Extinct Species
4.8 Humans and the Environment
4.9 Environmental Laws and Regulations

Environment and Ecology Standards
(2009) on SAS site
4.1 Ecology
4.3 Natural Resources
4.5 Humans and the Environment

Science and Technology and Engineering Standards
3.1 Biological Sciences

Science Anchors (Includes standards from Environment and Ecology, Science and Technology)
S4.B.3.1 - Identify and describe living and nonliving things in the environment and their interaction.
S4.B.1.1 - Identify and describe similarities and differences between living things and their life processes.
S4.B.2.1 - Identify and explain how adaptations help organisms to survive.
S4.B.3.2 - Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment.
S8.B.1.1 - Describe and compare structural and functional similarities and differences that characterize diverse living things.
S8.B.3.1 - Explain the relationships among and between organisms in different ecosystems and their abiotic and biotic components
S8.B.3.2 - Identify evidence of change to infer and explain the ways different variables may affect change in natural or human-made systems.