



Grades 6–8

3.1.6-8.J Life Science: Interdependent Relationships in Ecosystems

Students who demonstrate understanding can *construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.*

Clarifying Statement: Emphasis is on predicting consistent patterns of interactions in different ecosystems in terms of the relationships among and between organisms and abiotic components of ecosystems. Examples of types of interactions could include competitive, predatory, and mutually beneficial.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories. <ul style="list-style-type: none"> Construct an explanation that includes qualitative or quantitative relationships between variables that predict(s) and/or describe(s) phenomena. 	Interdependent Relationships in Ecosystems <ul style="list-style-type: none"> Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared. 	Patterns <ul style="list-style-type: none"> Patterns can be used to identify cause and effect relationships.

Pennsylvania Context: N/A

PA Career Ready Skills: Distinguish among various social contexts and how they impact personal feelings.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.02.02.01.a: Identify and summarize the components within AFNR systems (e.g., Animal Systems: health, nutrition, genetics, etc.; Natural Resources Systems: soil, water, etc.).
Science, Environmental Literacy and Sustainability (NAEE)	5-8 Strand 2.1.B. Earth's living systems: Learners identify basic similarities and differences among a wide variety of living organisms. They explain ways that living organisms, including humans, affect the environment in which they live, and how their environment affects them.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards: ELA	<p>CC.3.5.6-8.A: Cite specific textual evidence to support analysis of science and technical texts.</p> <p>CC.3.6.6-8.B: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <p>CC.3.6.6-8.H: Draw evidence from informational texts to support analysis reflection, and research.</p> <p>CC.1.5.8.A: Engage effectively in a range of collaborative discussions, on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly.</p> <p>CC.1.5.8.D: Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound, valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume and clear pronunciation.</p>
PA Core Standards and Practices: Math	N/A
PA Standards: Social Studies	N/A
Educational Technology (ISTE)	1.3. Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
Technology and Engineering (ITEEA)	STEL-3G: Explain how knowledge gained from other content areas affects the development of technological products and systems.