Oklahoma Academic Standards for Science (OAS-S)
Grade 6

MS-LS2-2	MS-LS2-4
Performance Expectation	
Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
SEP	
Constructing Explanations: Construct an explanation that includes qualitative or quantitative relationships between variables that predict phenomena.	**Engaging in Argument from Evidence:** Construct an oral and written argument supported by empirical evidence and scientific reasoning to support an explanation for a phenomenon.
DCI	
Interdependent Relationships in Ecosystems: Predatory interactions may reduce the number of organisms or eliminate whole populations of organisms.	**Ecosystem Dynamics, Functioning, and Resilience:** Ecosystems are dynamic in nature; their characteristics can vary over time
	Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.
CCC	
Patterns: Patterns can be used to identify cause and effect relationships.	**Stability and Change:** Small changes in one part of a system might cause large changes in another part.

Extend: Checklist to assess Claim-Evidence-Reasoning

MS-LS2-2 Checklist
Students articulate a statement that relates the given phenomenon to a scientific idea.
Students identify and discuss the evidence necessary for constructing the explanation, including evidence that: 1. Predatory interactions occur between organisms within an ecosystem; and/or 2. Mutually beneficial interactions occur between organisms within an ecosystem; and/or 3. Resource availability, or lack thereof, can affect interactions between organisms.
Students use reasoning to connect the evidence and support an explanation. In their reasoning, students use patterns in the as they relate to the phenomenon.

Evaluate: Checklist to assess oral argumentation in Community Forum

MS-LS2-4 Checklist
Students make a claim to be supported about a given explanation or model for a phenomenon. In their claim, students include the idea that changes to physical or biological components of an ecosystem can affect the populations living there.
Students identify and discuss the given evidence needed for supporting the claim, including evidence about: 1. Changes in the physical or biological components of an ecosystem, including the magnitude of the changes (e.g., predator removal, species introduction). 2. Changes in the populations of an ecosystem, including the magnitude of the changes.
Students use multiple valid and reliable sources of evidence.
Students evaluate the given evidence, identifying the necessary and sufficient evidence for supporting the claim.
Students use reasoning to connect the appropriate evidence to the claim and construct an oral or written argument about the causal relationship between physical and biological components of an ecosystem and changes in organism populations, based on patterns in the evidence. In the argument, students discuss a chain of reasoning that includes: 1. Specific changes in the physical or biological components of an ecosystem cause changes that can affect the survival of organisms within that ecosystem. 2. Factors that affect the survival of organisms can cause changes in the populations of those organisms. 3. Patterns in the evidence suggest that many different types of changes are correlated with changes in organism populations. 4. Some small changes in physical or biological components of an ecosystem are associated with large changes in a population, suggesting that small changes in one component of an ecosystem can cause large changes in another component.