Next Generation Science Standards met by *Climate Change and the Future of Michigan Cherries*

Lesson \ Standard	Performance Expectations							Science and Engineering Practices						
	Interdependent Relationships in Ecosystems (HS-LS2)			Natural Selection and Evolution (HS-LS4)	Human Sustainability (HS-ESS3)			Asking Questions and Defining Problems	Developing and Using Models	Analyzing and Interpreting Data	Using Mathematics and Computational Thinking	Constructing Explanations and Designing Solutions	Engaging in Argument from Evidence	Obtaining, Evaluating, and Communicating Information
	2	6	7	5	1	4	6							
Lesson 1: The Curious Case of the Michigan Cherries	🍒				🍒			🍒				🍒	🍒	
Lesson 2: Introduction to Modeling: Graphing and analyzing phenology data	🍒				🍒			🍒	🍒	🍒	🍒	🍒	🍒	
Lesson 3: Application: Using climate and phenology data and models to make predictions	🍒		🍒			🍒	🍒	🍒	🍒	🍒	🍒	🍒	🍒	🍒
Lesson 4 - Field Trip: Exploring citizen science and making connections between phenology and ecology		🍒		🍒				🍒						🍒

HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.
HS-LS2-6. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.
HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.
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.
HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.

Standard	Disciplinary Core Ideas					Crosscutting Concepts						
	Earth and Space Science			Life Science								
Lesson	Earth Materials and Systems	Weather and Climate	Global Climate Change	Ecosystem Dynamics, Functioning, and Resilience	Biodiversity and Humans	Patterns	Cause and Effect	Scale, Proportion, and Quantity	Systems and System Models	Energy and Matter	Structure and Function	Stability and Change
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