MEECS to Michigan K-12 Science Standards November 2015

Ecosystems and Biodiversity: Ecosystem Lessons (grades 4-6)

	1. Ecosystem Basics	2. It's All Connected!	3A. Nature's Recycling! Part A: The Water Cycle	3B. Nature's Recycling!Part B: Photosynthesis and the Carbon Cycle	3C. Nature's Recycling! Part C: Decomposition	4. Michigan Ecosystems: What Have They Done For YOU Lately?	5. Michigan Time Machine
Grade 4							
4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.							X
4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.							X
Grade 5							
5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	X		X	X			
5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.		X			X		
5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.		X					
5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.						X	X
Middle School							
MS-LS2-3.Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	X	X			X		
MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	X	X	X	X			X

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capital consumption of natural resources impact Earth's systems.	X		X	X			X
MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.		X				X	
MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.		X				X	X
MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.		X				X	
MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.			X				
MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.				X			
MS-LS1-7. Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.				X			
MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.							X
MS-LS4-5. Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.							X