NGSS and CCSS standards compatible with the LTER Decomposition Project

ONREP workshop, May 16, 2014

Teacher Info	Standard	How might you implement this project next year?
Jeremy Magee, Science, Sandy High School	CCSS.Math.Content.HSF.LE.A.(1-4): Construct and compare linear, quadratic, and exponential models and solve problems.	
	HS-LS2-3 Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.	
Rima Givot, Sisters High School Jill Semlick, Madison High School	HS-LS1-5.: Use a modelto illustrate how photosynthesis transforms light energy into stored chemical energy.	
	HS-LS1-6.: Construct and revise an explanation based on evidence for howcarbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.	
	HS-LS1-7.: Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.	
	HS-LS2-3.: Construct and revise an explanation based on evidence for the cycling of matterand flow of energy in aerobic and anaerobic conditions.	
	HS-LS2-4.: Use mathematical representations to support claims forthe cycling of matter and flow of energy among organisms in an ecosystem.	
	HS-LS2-5.: Develop a model to illustrate the role ofphotosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.	
Jenny Allen, Linus Pauling MS	MS-LS2-3.: Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	6th Grade Life Science - Ecosystems - Fall
	MS-PS1-5.: Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	7th Grade Physical Science - Conservation of Mass
	MS-ESS2-1.:Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	8th Grade Earth & Space - Biochemical Cycles
Brooke Brown, Hood River Alternative HS	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.	Implement 2015/2016 or Life Science 2014/2015; Time of Year Fall 2015 OR 2014; Put bags out in early September, check in October, November, April/May; Compare mixed litter to newspaper
Cindy Drouhard, Dev Brazel, Timber Ridge	MS-LS2-3.: Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	7th -> Short Term -> Conservation
	MS-PS1-5.: Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	8th -> Long term cycling of Earth's materials
	MS-ESS2-1.:Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	1st year -> May start with enrichment, dealing with 1 section

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Pad Quinn, Rachel Carson Environmental Middle School	8.2P.1 Compare and contrast physical and chemical changes and describe how the law of conservation of mass applies to these changes.	I plan to continue the project I started this year and next year I hope to premise the work with leaf ID, carbon cycle, Pit Fall Traps, Burlese funnels + decomposers that hopefully will lead to decomp bags. I will do this with all 3 science classes starting in the Fall.
Anne O'Connell, Creswell High School	HS-LS2-4.: Use mathematical representations to support claims forthe cycling of matter and flow of energyamong organisms in an ecosystem.	Which Class: Environmental Science, Chemistry?, Time of Year: Fall 2014, In addition to the decomposition aspect, I'd be really interested to match changes in pH as the decaying process progresses
Holly Neill - Life Christian School	HS-LS2-3.: Construct and revise an explanation based on evidence for the cycling of matterand flow of energy in aerobic and anaerobic conditions. (By setting up and conducting an experiment on decomposition, students will infer information about carbon cycling and make inferences about the impact that decomposition has as a carbon sink.)	This project is to look at decomposes as a basis for doing hands-on analysis of impacts to the carbon cycle. Using grants to purchase supplies, this project will be set-up in the biology classes at the start of the school year for data collection in the spring. This project will be set-up in September as an introduction to doing a lab activity. Samples will be collected in January, March, and June. Students will complete the project in the biology class.
Molly Charnes, Woodburn High School	HS-LS2-3.: Construct and revise an explanation based on evidence for the cycling of matterand flow of energy in aerobic and anaerobic conditions.	I plan to incorporate this into my IB Env. Systems course. We'll probably put a couple bags out this spring just to see how things work & troubleshoot for labs in the fall. We should be able to design some labs and get bags out in the fall (after leaves fall) to collect in winter & spring. In connection to the study, we'll review conservation of matter & energy through the Decomposers Carbon TIME unit. My hope is that they'll be able to connect these lessons to a leaf pack lab of their design. Additionally, I'll probably try to tie in biodiversity/dispersal topics by looking at the critters that colonize the bags.
	HS-LS2-4.: Use mathematical representations to support claims forthe cycling of matter and flow of energyamong organisms in an ecosystem.	
	HS-LS2-5.: Develop a modelto illustrate the role ofphotosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.	
Angie Ortiz-McNeese, David Douglas 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.	
	MS-LS2-5.: Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	
	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.	