Name: _____ Class Period: _____

Ecology (Interactions of Life)

Start Date: 3/6/2017 End Date: (end date is subject to change)

DOK 1- Beginning Begin here if Pre-Assessment score is 79 or below.	DOK 2- Developing Begin here if Pre-Assessment score is 80 -99.	DOK 3- Proficient Begin here if Pre-Assessment score is 100.	DOK 4- Distinguished
Pre-Assessment (Place score at the bottom of the sheet) Self-Assess from the Pre-Assessment **Student notes for DOK 1:** ***Complete Must Do and then select either the Website task or create your own assignment. Be sure you take the vocabulary assessment and then conference with teacher before moving on to DOK 2.***	**Student Notes for DOK 2:** ***When you start on DOK 2, you can select the Gizmo activity or one of the "create" activities. Once you have completed at least one of these assignments, take the Formative Assessment. Conference with teacher before moving on.*** Gizmo: (Complete Both) Abiotic factors Assessment Grade _____ (includes food chain and food web) Biotic Factors Assessment Grade _____ (includes food chain and food web)	Create a flowchart for the Water Cycle, Carbon Cycle, and Nitrogen Cycle to show the critical stages of each cycle. ***Relate how engineers use their knowledge of energy flow through systems in the design of new technologies. "Go with the Energy Flow" https://www.teachengineering.org/lessons/view/cub_bio_lesson03	Research an organism that is on the endangered species list and identify the food it eats, identify another organism that eats it, gather data from the last 50 years about the organism's population and then predict when the organism may become extinct based on data collected and what might happen to the food chain and food web should that organism become extinct.QQ1`
Must do: Vocabulary Foldable for vocabulary - format could include quizlet, flashcards, KIM chart, typed **biotic abiotic producer consumer herbivore carnivore omnivore decomposer carbon cycle nitrogen cycle energy pyramid food chain food web**	Create an ecosystem that includes abiotic and biotic factors: See activity sheet for directions ****Include at least one food chain**	Create your own assignment. MUST be teacher approved.	Create own Environment Assignment. Get information from teacher.
Biotic vs Abiotic You won't beat the score!!! http://www.purposegames.com/game/biotic-vs-abiotic-game Score_____	Create your own assignment. ****MUST be teacher approved.** **Must include information about: Abiotic/Biotic factors and Food Chain**		.
Create your own assignment. MUST be teacher approved.			
Formative Assessment: Vocabulary Quiz Attempt: _____ Attempt: _____	Formative Assessment: Fill in the blank Quiz Attempt: _____ Attempt: _____	Formative Assessment: Get from teacher Score: _____	Formative Assessment: Same as Assignment Score: _____

Pre-Assessment: _____ **Post-Assessment: _____** **Goal for Playlist: Level _____**

Unit Competency: **MS5.Life Science: Matter and Energy in Organisms and Ecosystems**
Students will apply scientific and engineering practices to understand and analyze the characteristics, functions, and behavioral interactions within an ecosystem.
Unit GPS Standards: **S7L4. Students will examine the dependence of organisms on one another and their environments.**
a. Demonstrate in a food web that matter is transferred from one organism to another and can recycle between organisms and their environments.
b. Explain in a food web that sunlight is the source of energy and that this energy moves from organism to organism.

Performance Indicators:
A. Develop a model to describe the cycling of matter and flow of energy among biotic and abiotic components of the chosen or assigned ecosystem. (S7L4.a,b)

Learning Targets:

1. **I can explain the difference between the biotic and abiotic parts of the environment.**
2. **I can describe how the abiotic and biotic parts of the environment affect ecosystems.**
3. **I can explain how producers, consumers, and decomposers interact with each other and the ecosystem.**
4. **I can explain the difference between a food chain and a food web.**
5. **I can trace the flow of energy through an ecosystem.**

Lesson Timeline:

1. **Day 1 Pre-Assess, Self-Assess, Intro vocab**
2. **Day 2-4 will include some independent work and some direct Instruction introducing topics related to the Ecology Unit with a focus on factors in an environment like abiotic and biotic factors, sharing examples of abiotic and biotic(producers, consumers, decomposers), importance of food chains/food webs and the difference between the two, Cycles (carbon cycle, nitrogen cycle and water cycle). Direct instruction may include lecture, powerpoint, video clips, etc.**
3. **Day 2 - ? Students will have some time to work independent and some time spent with direct instruction or small group instruction.**
4. **Lesson support**

a. **Scholastic Interactive Site: https://www.scholastic.com/teachers/activities/teaching-content/ecosystems-11-studyjams-interactive-science-activities/**
b. **Humpback Whale saved by boaters: https://www.youtube.com/watch?v=tcXU7G6zhjU**
c. **Ecology PowerPoint: www.ptbeach.com/cms/lib02/.../113/ap%20biology%20ppts/Ecology1%20ppt.pptx**