Name: _____ Class Period: _____

S7L4 a&c: Interactions of Life

Start Date: February 27, 2018 End Date: March 16, 2018

Direct Instruction	DOK 2-	DOK 3-	DOK 4 -
Pre-Assessment (Place score at the bottom of the sheet) and Self Assess **Student notes for Direct Instruction:** *Complete **Must Do** and* **MUST DO:** Flashcards for Interactions of Life (Share with Teacher) OR Vocabulary Foldable or TIP Chart **population, limiting factor, carrying capacity, extinction, competition, predator, prey, symbiosis, mutualism, commensalism, parasitism, community, ecosystem, biosphere, biome.**	**PI B - Must Do #1 and #2** 1. Predation or Starvation Activity https://www.biologycorner.com/worksheets/predator_prey_graphing.html **2. Create a foldable or visual on the Levels of Organization of the Ecosystem - must include: Individual, Population, Community, Ecosystem. Include notes and illustrations** **PI B - Choose #1, #2, or #3** **1.** Create your own assignment related to how populations change due to available resources. MUST be teacher approved. **2**. Virtual Lab: Population Ecology https://www.biologycorner.com/worksheets/virtual_lab_population.html **3.** Lesson of the Kaibab - https://www.biologycorner.com/worksheets/kaibab.html	**PI C - Choose #1, #2 or #3** **1.** Create your own assignment related to impact on population changes, must include some data collected, hypothesis of changes to come, ways to possibly "fix" the environment so organisms are not lost. MUST be teacher approved. **2.**.You have just been hired by the Georgia Public Broadcasting System (GPBS) to work in the Early Education Science Department. Your job is to teach children about producers, consumers and decomposers. Think of several examples of each. Think about their relationships. Also, imagine the different types of symbiotic relationships. Using the examples, you came up with, create a cartoon story that explores the relationship between producers, consumers and decomposers. Make sure	**PI - Choose #1 or #2** **1.** Create your own assignment. MUST be teacher approved. **2**. 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.
MUST DO: Take notes from the 9 Tabs in the link below. You should have notes from each of the tabs. Eschool Today - Your Cool Facts and Tips on Ecosystems http://eschooltoday.com/ecosystems/scales-of-an-ecosystem.html Please use the following Nearpods as a Resource: **PI C - Predator Prey Relationships Nearpod** **Predator Prey Relationships** **https://share.nearpod.com/7BkEqfSASK**	**PI C - Must Do** Create a Flipbook that distinguishes between the different types of relationships that occur in our environment. Include 2 examples of each type (not the example we used in class). (mutualism, commensalism, parasitism & predator/prey) **PI C - Choose #1, #2 or #3** **1**. Create your own assignment related to mutualism, commensalism, parasitism & predator/prey . MUST be teacher approved **2.** Investigate .how organisms or populations may interact with one another through symbiotic relationships and how some species have become so adapted to each other that neither could survive without the other (e.g., predator-prey, parasitism, mutualism and commensalism). **3.** Create a comic strip explaining the types of symbiotic relationships.		

PI A - Symbiotic Relationships in Nature **Nearpod** Symbiotic Relationships in Nature https://share.nearpod.com/Zh2M3xxBSK		you include all 3 symbiotic relationships and predator/prey relationships. What is your interpretation of this cartoon? Support your rationale. **3.** It is important to introduce the idea of population change, there are many reasons for population change – limited resources, predator-prey cycles, human impact, habitat change – to name but a few. Students will graph population data and then use their graphs to evaluate one of the most famous examples of population change, the predator-prey population cycle of the snowshoe hare and the Canada lynx. The data is taken from the 300 year's worth of real data collected by trappers of the Hudson Bay Company. From the data make some hypotheses about what causes population change in the real world. ***Use informational worksheet to complete	**EXTRA CREDIT: Complete the following Webquest** `` Webquest for Interactions of Life http://zunal.com/webquest.php?w=162592

Vocabulary Quiz Score: _____	DOK2 Formative Assessment on Illuminate. See teacher for Access Code. Score: _____	DOK3 Formative Assessment on Illuminate. See teacher for Access Code. Score: _____	Unit Assessment Score: _____

Pre-Assessment: _____ **Post-Assessment: _____**

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.

Performance Indicators:

C. (4c)Analyze and interpret data to provide evidence for how resource availability, disease, climate, and human activity affect individual organisms, populations, communities, and ecosystems.

B. (4a) Explain the patterns of relationships in different ecosystems (predator/prey, competition, mutualism, parasitism, and commensalism).

Unit GSE Standards: S7L4. Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments. c. Analyze and interpret data to provide evidence for how resource availability, disease, climate, and human activity affect individual organisms, populations, communities, and ecosystems.

a. Construct an explanation for the patterns of interactions observed in different ecosystems in terms of the relationships among and between organisms and abiotic components of the ecosystem.

Learning Targets:

1. **I can describe how changes to the predator/prey relationship affect an ecosystem 2. apply my knowledge and understanding of symbiotic relationships to real-world examples 3. infer that predators and prey are both important for an ecosystem based on data collected**

Week of	Monday	Tuesday	Wednesday	Thursday	Friday	To Do:
2/26	2/26 No School	27 Pre-Assessment Data Analysis - Learner Profile	28 - PI B D/I DOK 2 - DOK 4	3/1 -PI B D/I DOK 2 Check-Up DOK 4	3/2 - PI B D/I- DOK2 Check-Up DOK 4	
3/5	5 - PI B D/I DOK 2 - Vocab Quiz /	6- PI B D/I DOK 3 - DOK 4	7-PI C D/I DOK 3 - DOK 4	8- PI C D/I DOK 3 - DOK 4 DOK 3 Check-Up	9 - PI C D/I DOK 3 DUE- DOK 4 DOK 3 Check-Up	

3/12	**12- PI C D/I DOK 1-3 Check-Up - DOK 4**	**13 - PI C Direct Instruction - DOK 3 Check-Up - DOK 4**	**14 - PI C Direct Instruction - DOK 3 - DOK 3 Check-Up - DOK 4**	**15 PI B & C- Post Assessment**	**16 PI B & C- Post Assessment**	

Direct Instruction/Whole Class

- **Predator/Prey Card Game (wolves and deer - what happens to the populations?)**
- **Gizmo (Prairie Ecosystem)**

Resources:

https://www.youtube.com/watch?v=hIy0ZlyPPDg&list=PLISBHwlJXpn2bmLjfiShKcIHpBPcov24O&index=5 – Intro to biomes

https://www.youtube.com/watch?v=E1pp_7-yTN4&list=PLpVSLnEyW17bKa2esIHEpr1YNkoQIdBIc&index=3 – Abiotic and Biotic

https://www.youtube.com/watch?v=cIfpKL0brwQ&index=5&list=PLpVSLnEyW17bKa2esIHEpr1YNkoQIdBIc - Population Community Ecosystem

https://www.youtube.com/watch?v=zTGcS7vJqbs&index=2&list=PLpVSLnEyW17bKa2esIHEpr1YNkoQIdBIc – Symbiosis

https://www.youtube.com/watch?v=Q5Vl4V24eNI&list=PLpVSLnEyW17bKa2esIHEpr1YNkoQIdBIc&index=4 – Habitats

Amoeba Sisters videos

https://www.youtube.com/watch?v=EtWknf1gzKo&list=PLwL0Myd7Dk1F0iQPGrjehze3eDpco1eVz&t=30s&index=3 – Levels of Organization

https://www.youtube.com/watch?v=-oVavgmveyY&list=PLwL0Myd7Dk1F0iQPGrjehze3eDpco1eVz&index=43 – Intro to Food Webs and Energy pyramids

https://www.youtube.com/watch?v=rNjPI84sApQ&index=44&list=PLwL0Myd7Dk1F0iQPGrjehze3eDpco1eVz – Ecological relationships

https://www.youtube.com/watch?v=NHqEthRCqQ4&list=PLwL0Myd7Dk1F0iQPGrjehze3eDpco1eVz&index=45 – Carbon and Nitrogen Cycles

Brain pop videos

https://www.brainpop.com/science/ecologyandbehavior/symbiosis/ - Symbiosis

https://www.brainpop.com/science/ecologyandbehavior/landbiomes/ - land biomes

https://www.brainpop.com/science/ecologyandbehavior/energypyramid/ - Energy Pyramid

https://www.brainpop.com/science/ecologyandbehavior/foodchains/ - food chains