|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| M. Angileri | **6th grade science** | | **Lesson Plans 4-22-19 Competition in Ecosystems #1** | | | | |
| NGSS Standards | **MS-LS2-1**  DCI :  **MS-LS2.A.**  S & E practices  CCC | | MS-LS2-1Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.  **Interdependent Relationships in Ecosystems:** In any ecosystem, organisms and populations with similar requirements for food, water, or other resources may compete with each other for limited resources, assess to which consequently constrains the growth and reproduction.  Growth of organisms and populations increases are limited by access to resources.  **Analyzing and Interpreting Data:** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.  **Cause and Effect:** Cause and Effect relationships may be used to predict phenomena in natural or designed systems. | | | | |
| Essential Question | | Why would a non-native species thrive better in an ecosystem than a native species? | | | | | |
| Vocabulary: | | **Competition:** More than one individual or population in an ecosystem that relies upon the same limited resource.  **Ecosystem**: A system comprising all the biotic and abiotic factors in an area and all the interactions among them.  **Limited Resources:** Somethings that is needed by organisms and is not infinite in its abundance in the environments; if it is exhausted, then the organisms that need it cannot survive.  **Organism:** A self-contained living thing.  **Population:** A group of interacting individuals of the same species located in the same area.  **Resources:** Source or supply from which benefit is produced.  **Biotic**: Living, or produced by living things.  **Abiotic:** Not living or produced by living things.  **Competitive Interaction:** When two or more individuals or populations attempt to obtain a single resource.  **Dependents Interaction:** When an organism depends on a factor for survival.  **Primary Consumer:** An organism that gets its energy by feeding on producers in the food chain.  **Secondary Consumer:** An animal that eats other animals that eat plants. | | | | | |
|  | | **MONDAY** | | **TUESDAY** | **WEDNESDAY** | **THURSDAY** | **FRIDAY**  **Shortened Classes PBIS event** |
| Content Objective: | | SW demonstrate application of the cycling of matter and flow of energy among living and nonliving parts of an ecosystem by carrying out the nitrogen cycle game with 70% accuracy. | | SW demonstrate knowledge of resource availability on organisms and populations of organisms in an ecosystem by recording resource availability with 70% accuracy | SW demonstrate knowledge of resource availability on organisms and populations of organisms in an ecosystem by recording resource availability with 70% accuracy | SW demonstrate comprehension of resource availability on organisms and populations of organisms in an ecosystem by summarizing information with 70% accuracy | SW demonstrate application of resource availability on organisms and populations of organisms in an ecosystem by providing examples of competition from the CCV video with 70%b accuracy. |
| Language objective | | SW write/speak to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem using the game record sheet with 70% accuracy. | | SW write/speak to explain resource availability on organisms and populations of organisms in an ecosystem using the data chart with 70% accuracy. | SW write/speak to explain resource availability on organisms and populations of organisms in an ecosystem using the data chart with 70% accuracy. | SW read/ write to paraphrase information on resource availability on organisms and populations of organisms in an ecosystem using the four corner summary with 70% accuracy | SW listen/write to interpret resource availability on organisms and populations of organisms in an ecosystem using sentence frames with 70% accuracy. |
| In class today | | Explore 2: Cycling of Matter and Energy Part 2 and 3 | | Competition in Ecosystems:  Investigating Phenomena  Assessing Prior Knowledge  Hook | Competition in Ecosystems: Hook Ecosystem Resources  L.L Prereading Partner Discussion  Read Scopepedia  L.L : Four corned Summary | Discuss Scopepedia  Environmental Changes  Explore 1 | Finish Explore 1  CCV: Lions Verses yenas |

Guiding Questions:

What factors can influence an organism’s survival in an ecosystem?

What are some limited resources that can affect an organism’s growth or population increases?

How cam competitive, predatory, and mutually beneficial relationships affect organisms?

What do food Webs demonstrate?

How do disruptions to components of ecosystems affect populations?

How can changes in biodiversity influence humans?

**Preconceptions**

**These preconceptions can be addressed as students move through the scope; they do not need to be clarified at this point. Be sure to keep in mind the preconceptions uncovered during this APK as you move through the scope.**

**Students may not know that a balance of resources is needed for a healthy population**

.A healthy ecosystem is made up of native plant and animal populations interacting with each other and nonliving things. If there are too many predators in an ecosystem, the prey population can be depleted, and the predator population will suffer. If there are too many herbivores in an ecosystem, the population of producers can be depleted, and the herbivore population will suffer

.**Students may not realize that plants also compete for resources.**

Plants compete for nutrients in the soil. When plants grow close to each other, they deplete the needed elements in the soil and have a negative impact on their neighbors. Plants also compete for light. Plants that grow the fastest can use their leaves to shade the shorter plants.