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| M. Angileri | **6th grade science** | | **Lesson Plans 5-20-19 Relationships in Ecosystem #3** | | | | |
| NGSS Standards | **MS-LS2-1**  **MS-LS2-4**:  DCI :  **MS-LS2.A.**  S & E practices  CCC | | **MS-LS2-2:**Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.  **MS-LS2-4**: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.  **Interdependent Relationships in Ecosystems:** Predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism required the other for survival. Although the species involved in the competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving are shared.  **Constructing Explanations and Designing Solutions:** Construct an explanation that includes qualitative or quantitative relationships between variables that predict phenomena.  **Patterns:** Patterns can be used to identify cause and effect relationships | | | | |
| Essential Question | | Do fish Bathe? | | | | | |
| Vocabulary: | | **Abiotic:** Not living or produced by living things.  **Biotic:** Living or produced by living things.  **Competitive Interactions:** When two or more individuals or populations attempt to obtain a single resource.  **Ecosystem:** A system comprising all the biotic and abiotic factors in an area and all the interactions among them.  **Interdependent:** Needed for multiple systems to work together to accomplish various tasks.  **Mutually Beneficial Interactions:** An interaction between organisms or species that is helpful to both.  **Organism:** A self-contained living thing.  **Population:** A group of interacting individuals of the same species located in the same area.  **Predatory Interaction:** The interaction between two animals in which one animal eats the other. | | | | | |
|  | | **MONDAY** | | **TUESDAY** | **WEDNESDAy** | **THURSDAY** | **FRIDAY**  **½ Day Team** |
| Content Objective: | | SW demonstrate application of predicting patterns of interactions among organisms across multiple ecosystems by providing changes to ecosystems and environmental impact with 70% accuracy | | SW demonstrate comprehension of patterns of interactions among organisms across multiple ecosystems by summarizing information using the Guided Reading with 70 % accuracy. | SW demonstrate knowledge of evidence that changes to physical or biological components of an ecosystem affect populations by recognizing how humans impact ecosystems with 70% accuracy. | SW demonstrate comprehension of predicting patterns of interactions among organisms across multiple ecosystems by classifying relationships from the video as Interspecific or intraspecific competition by classifying relationships from the video with 70% accuracy | A blend of Wednesday and Thursday as needed. |
| Language objective | | SW Speak/Listen evaluate patterns of interactions among organisms across multiple ecosystem using sentence frames with 70% accuracy. | | SW read/speak to summarize the patterns of interactions among organisms across multiple ecosystems using sentence frames with 70 % accuracy. | SW listen/speak to discuss the changes to physical or biological components of an ecosystem and how it affects populations of the Rouge River ecosystem using content specific vocabulary with 70% accuracy. | SW listen/write to draw conclusions about patterns of interactions among organisms across multiple ecosystems using Content Specific Vocabulary with 70% accuracy. | A blend of Wednesday and Thursday as needed. |
| In class today | | Science Today Watch It: Predation in Ecosystem Organisms Interactions In Ecosystems: Explore 1 | | Read and discuss Interactions among Living Things pages 31-38  Assign Guided Reading worksheet | Rouge Field Testing Orientation | Amazon Prime Video:  Nature’s Partners  Guided Notes | Catch up day and PBIS Team Event  Debrief Video  Last minute planning for Rouge Field Testing. |

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.