|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| M. Angileri | **6th grade science** | | **Lesson Plans 5-27-19 Relationships in Ecosystem #4** | | | | |
| 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**  **Memorial Day** | | **TUESDAY** | **WEDNESDAY** | **THURSDAY** | **FRIDAY**  **½ Day** |
| Content Objective: | |  | | SW demonstrate Application of Scientific testing to gather evidence that changes to physical or biological components of an ecosystem affect populations by carrying out testing with 70% accuracy. | SW demonstrate analysis of evidence that changes to physical or biological components of an ecosystem affect populations by finding connections between test results and the Rouge River Ecosystems with 70% accuracy. | SW demonstrate comprehension of how changes to physical or biological components of an ecosystem affect populations by summarizing information on a guided reading with 70% accuracy. | SW demonstrate comprehension of changes to physical or biological components of an ecosystem affect populations by inferring changes that may occur with 70% accuracy. |
| Language objective | |  | | SW Speak to draw conclusion about evidence that changes to physical or biological components of an ecosystem affect populations using complete sentences with 70% accuracy. | SW speak/write to report evidence that changes to physical or biological components of an ecosystem affect populations using sentence starters. | SW read/write to summarize of how changes to physical or biological components of an ecosystem affect populations using sentence frames with 70% accuracy. | SW write to give examples of changes to physical or biological components of an ecosystem affect populations using sentence frames with 70% accuracy. |
| In class today | |  | | Rouge Field Testing  A.M. 2nd and 3rd  P.M. 4th and 5th | Rouge Debriefing  (Kirk) Graphic Organizer  Study Guide for test | Rouge Field Testing (DePalma)  (Kirk-Type 3 writing)  Read and Discuss: Living Resources p. 84-89  Guided Reading | Correct Study Guide for test on Monday  Finish: Amazon Prime Video:  Nature’s Partners  Guided Notes |

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.