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| M. Angileri ♣ 5 -6-18 | **6th grade science** | | **Lesson Plans: Dynamic Nature of Ecosystems #3** | | | | |
| NGSS Standard | **MS-LS2-4**  DCI (A)  MS-LS2.1C.  S & E practices  CCC | | Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.  **Ecosystem Dynamics, Functioning and Resilience:** Ecosystems are dynamic in nature; their characteristics can varyover time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.  **Engaging in Argument from evidence:** Construct, use, and/or present an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or model for a phenomenon or a solution to a problem.  **Stability and Change:** Effect of changes: Small changes in one part of a system might cause large changes in another part. | | | | |
| Vocabulary: | | **Abiotic Factors:** A nonliving part of an ecosystem.  **Biotic factors**: A living part of an ecosystem  **Dynamic:** Characterized by constant change, activity, or progress.  **Ecosystem:** A system comprising all the biotic and abiotic factors in an area and all the interactions among them.  **Resilience:** The ability of an organism, population, community, or ecosystem to persist in the face of stressful or changing conditions.  **Succession:** The process of the migration of a new species into an ecosystem after a disruptive event.  **Aquatic:** Relating to the water; living in or near water or taking place in water.  **Consumer:** An organism that must consume other organisms for nutrients.  **Cycle of Matter:** The continuous movement of different types of matter, such as water, phosphorus, nitrogen, and carbon, through different parts of the hydrosphere, atmosphere, and biosphere.  **Decomposers**: Organisms such as bacteria and fungi that break down the remains of dead plants and animals, without need for internal digestion.  **Ecological Recycling:** The movement and exchange of living and nonliving matter back into the production of living matter.  **Energy Transfer:** Transfer of energy from the Sun through the different tropic levels of the biosphere.  **Food Webs:** Overlapping food chains with different pathways for the flow of food energy in an ecosystem.  **Nutrients**: A substance that provides materials necessary for the growth and maintenance of life.  **Producer:** An organism that makes complex energy containing biomolecules from simple inorganic molecules using energy captures from light or inorganic chemical compounds.  **Terrestrial:** On or of the Earth.  **Tropic Levels:** Any Class of organisms occupying the same position in a food chain, such as primary consumer or secondary consumers. | | | | | |
|  | | **MONDAY** | | **TUESDAY** | **WEDNESDAY** | **THURSDAY** | **FRIDAY** |
| Content Objective: | | SW demonstrate knowledge of disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations by identifying factors that make most of Earth’s water not useful to people and human sources of pollution. | | SW demonstrate comprehension of how disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations by explaining ways that technology can help control air and water pollution. | SW demonstrate application of how disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations by carrying out experiments. | SW demonstrate evaluation of how disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations by reflecting on their experience at the Rouge river. | SW demonstrate evaluation of how disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations by reflecting on their experience at the Rouge river. |
| Language objective | | SW write to paraphrase how disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations using sentence frames in the guided reading. | | SW write to describe how disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations using sentence starters in the guided reading. | SW orally draw conclusions about how disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations using complete sentences. | SW write to make connections among disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations using note taking strategies. | SW write to make connections among disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations using Claim, Evidence, and Reasoning. |
| **Essential Question:** | | **Why are invasive species a threat to an environment?** | | **Why are invasive species a threat to an environment?** | **Why are invasive species a threat to an environment?** | **Why are invasive species a threat to an environment?** | **Why are invasive species a threat to an environment?** |
|  | | Read and discuss “The Water Supply” page 149- 153 Guided Reading  CCV: Invading Animals: The Cane Toad | | Read and discuss “Finding Pollution Solution: p. 155- 158  Guided Reading | Rouge Experience  2nd and 3rd hour A.M.  4th and 5th hour P.M. | Debriefing from the Rouge experience.  Test Results  Drawing Conclusions | Type 3  How have Humans made an impact on the Rouge River system. |

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| Enrichment | Students research a disruptive event that disturbed an existing ecosystem and create a presentation to give during science class.  Research Day | Students research a disruptive event that disturbed an existing ecosystem and create a presentation to give during science class.  Enrichment sharing | No class rouge experience | Students research a disruptive event that disturbed an existing ecosystem and create a presentation to give during science class.  Improving the presentation. | Recycling  Student Sharing  Flush? |

What does invasive mean?

What is its root meaning?

What other word to you think of when you hear invasive?