

S7L4 b Abiotic/Food Web/Cycles

Start Date: January 31, 2019

End Date: February 14, 2019

| Direct Instruction | DOK 2 | DOK 3 | DOK 4 |
|---|--|---|--|
| <p>Pre-Assessment (Place score at the bottom of the sheet) Self-Assess from the Pre-Assessment <i>Complete Must Do's</i> <i>Take Nearpod notes</i> Food Web/Pyramid/Energy Cycles Nearpod https://share.nearpod.com/1QrFcp1cnL</p> <p>MUST DO: : Abiotic/Food Web/Cycles Vocabulary: flashcards, foldable, or KIM Chart (Share with Teacher) (MUST BE HANDWRITTEN) biotic, abiotic, producer, consumer, herbivore, carnivore, omnivore, decomposer, carbon cycle, nitrogen cycle, energy pyramid, food chain, food web, competition, predator, prey, primary consumer, secondary consumer, tertiary consumer, symbiosis, mutualism, commensalism, parasitism, community, ecosystem, biosphere, biome, population, limiting factor, carrying capacity, extinction</p> <p>MUST DO: Biotic vs Abiotic Factors...You won't beat the score!! http://www.purposegames.com/game/biotic-vs-abiotic-game Score _____</p> <p>MUST DO: Create a foldable or visual on the Food Web Pyramid -must include: 5 levels: Decomposers, Producers, Primary, Secondary, Tertiary Include notes and illustration</p> | <p>MUST DO: Create an ecosystem that includes abiotic and biotic factors: Choose 1 from the link below https://iblog.dearbornschools.org/savagea/wp-content/uploads/sites/1268/2016/09/Abiotic-and-Biotic-Factors-Student-Project.pdf</p> <p>Choose #1, or #2 1.Create your own assignment. **MUST be teacher approved. Must include information about: Abiotic/Biotic factors and Food Chain</p> <p>**Include at least one food chain</p> <p>2. Draw a food chain and a food web to describe the source of something they have eaten recently. Each food chain and web should start with the sun and then move to producers and associated consumers. Make sure to draw arrows to indicate the flow of energy from one stage to the next. Follow the rubric and complete the analysis questions (see teacher for questions)</p> | <p>Choose #1, #2, or #3 1..Create your own assignment. **MUST be teacher approved. Must include information about: Abiotic/Biotic factors and Food Chain</p> <p>2. Create a flowchart for the Water Cycle, Carbon Cycle, and Nitrogen Cycle to show the critical stages of each cycle. Do not just copy a picture that already exists on the web. ***Relate how engineers use their knowledge of energy flow through systems in the design of new technologies. USE THE BELOW LINK FOR A REFERENCE "Go with the Energy Flow" https://www.teachengineering.org/lessons/view/cub_bio_lesson03</p> <p>3. Research the ways in which people in your community can impact the water cycle. Write a newspaper article and be prepared to present your findings to help the people in your community understand their impact on the water cycle. Must have creditable data.</p> | <p>Choose #1, #2, or #3 1.Create own Environment Assignment. Include: Abiotic, Biotic Factors, Food Webs & Pyramid, and Energy Cycles</p> <p>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.'</p> <p>3.The local tv station has offered you the opportunity to film a "mockumentary" video about a local ecosystem. Include written dialogue with video. The station requested that it be an in-depth study that includes details about the interactions of the various food webs, the interdependence between the biotic and abiotic factors, and they symbiotic relationships that exist in the ecosystem. Local biologists also had noted that there was evidence that biological competition was having an impact on a few of the animal populations, so be sure to include information on this as well, be creative!!!</p> |
| <p>Vocabulary Quiz Attempt: _____</p> | <p>DOK2 Check-Up Attempt: _____</p> | <p>DOK3 Check-Up Score: _____</p> | <p>Formative Assessment: Score: _____</p> |

Pre-Assessment: _____

Post-Assessment: _____

Unit GSE: S7L4. Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments.

b. Develop a model to describe the cycling of matter and the flow of energy among biotic and abiotic components of an ecosystem. (Clarification statement: Emphasis is on tracing movement of matter and flow of energy, not the biochemical mechanisms of photosynthesis and cellular respiration.)

Learning Targets:

1. I can identify biotic and abiotic components in an ecosystem. (Knowledge)
2. I can explain how matter moves in an ecosystem. (Knowledge)
3. I can explain how energy moves in an ecosystem. (Knowledge)
4. I can compare the movement of matter and energy in an ecosystem. (Reasoning)
5. I can describe the movement of matter and energy in an ecosystem among biotic and abiotic components. (Reasoning)
6. I can develop a model to describe the movement of matter and energy among biotic and abiotic components of an ecosystem. (Product)

Lesson Timeline:

| Week of | Monday | Tuesday | Wednesday | Thursday | Friday | To Do: |
|----------------|-----------------|------------------------------|------------------|---|--|---------------|
| 1/31 | | | | 31 - Pre-Assessment Direct Instruction | 2/1- Learner Profile Goals D/I- DOK2 | |
| 2/4 | 4 - D/I- DOK 2 | 5 - DOK2 - DOK 2 Check up | 6 D/I- DOK 3 | 7 D/I- DOK 3 | 8 D/I- DOK 3 DOK 3 Check up | |
| 2/11 | 11 D/I- DOK 3/4 | 12 D/I- DOK 4 | 13 D/I- DOK 4 | 14 Post Assessment | | |
| | | | | | | |

1. Lesson support

- a. Scholastic Interactive Site: <https://www.scholastic.com/teachers/activities/teaching-content/ecosystems-11-studyjams-interactive-science-activities/>
- b. Humpback Whale saved by boaters: <https://www.youtube.com/watch?v=tcXU7G6zhjU>
- c. Ecology PowerPoint: www.ptbeach.com/cms/lib02/.../113/ap%20biology%20ppts/Ecology1%20ppt.pptx

Resources:

<https://www.youtube.com/watch?v=hly0ZlyPPDg&list=PLISBHwJXpn2bmLjfiShKclHpBPcov24O&index=5> – Intro to biomes

https://www.youtube.com/watch?v=E1pp_7-yTN4&list=PLpVSLnEyW17bKa2esIHPr1YNkoQldBlc&index=3 – Abiotic and Biotic

<https://www.youtube.com/watch?v=clfpKL0brwQ&index=5&list=PLpVSLnEyW17bKa2esIHPr1YNkoQldBlc> - Population Community Ecosystem

<https://www.youtube.com/watch?v=zTGcS7vJqbs&index=2&list=PLpVSLnEyW17bKa2esIHPr1YNkoQldBlc> – Symbiosis

<https://www.youtube.com/watch?v=Q5VI4V24eNI&list=PLpVSLnEyW17bKa2esIHPr1YNkoQldBlc&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=NHgEthRCqQ4&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

mockumentary noun, *Movies, Television.*

a movie or television show depicting fictional events but presented as a documentary.