

7th Unit 4*

Dates of Instruction: January 7-January 20, 2020

Unit Assessment Date: January 20, 2020

Ecosystems

Vocabulary	
Term	Definition
Biodiversity	The variety of life an ecosystem contains. The greater the number of species, the greater the biodiversity.
Biological Component	Any living part of an ecosystem. Ex: plants, animals, fungi, bacteria.
Ecosystem	An environment made up of living and nonliving things that depend on each other for survival.
Ecosystem Health	A measurement of the overall condition of an ecosystem. Ecosystem health is greatest when diversity is also great.
Organism	Any living thing.
Physical Component	Any nonliving part of an ecosystem. Ex: sunlight, water, rocks, air.
Population	A group of the same species living in an ecosystem.
Preserve	To keep similar or the same. In science, often related to human actions to maintain an ecosystem.
Species	A group of similar organisms that are able to mate or reproduce with one another.
Vocabulary specific to design solutions (which is part of the standards assessed)	
Criteria	When designing a solution, the standards or guidelines that must be met in order to be successful.
Constraint	When designing a solution, the limitations that exist. Ex: costs, materials, time etc..
Solution	A potential answer to a problem that exists.

*This is a mini-unit that consists of two very similar standards.

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Key Ideas

Ecosystems

- Biodiversity refers to the variety of life an ecosystem contains (i.e. numbers of different species)
- An ecosystem's health is measured by its biodiversity or the variety of life it contains
- Ecosystems naturally change over time
- Disruptions in an ecosystem can affect all its populations
- Organisms and their environments are interconnected. Changes in one part of the system will affect other parts of the system
- Changes in an organism's environment may cause a shift in populations.
- Changes in populations can decrease the biodiversity and overall health of an ecosystem.
- Humans rely on ecosystems for resources, like food.
- Humans and other organisms impact biodiversity.

Design Solutions

- Design solutions must be tested.
- Tests are often designed to identify failure points or difficulties.
- Testing a solution involves investigating how well it performs under a range of likely conditions.
- Solutions are modified on the basis of the test results.
- Different solutions can be combined to create a better solution.
- Designing solutions to problems is a systematic process.
- There are many types of models.
- Models can be used to investigate how a design might work.
- Models allow the designer to better understand the features of a design problem.
- Engineering design is tested and altered due to criteria and constraints.

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