

Ecosystems

Assessed Understandings

8th Grade

1. **Science as Inquiry** – Scientific explanations result from use of the scientific processes including: logical analysis of historical data, observation, acquisition of evidence (through proper sampling techniques), collection and analyses of data, collaboration with peers, etc.
2. **Habitats** – Biotic and abiotic factors affect population size in an ecosystem. Matter is constantly cycled through an ecosystem by the various cycles (water, nitrogen, etc.).
3. **Adaptations** – Specific adaptations of organisms enable them to survive in their environment. These adaptations arise from evolutionary processes which are influenced by the pressures of natural selection.
4. **Energy Flow** – Interactions in an ecosystem result from the transfer of energy from producers to consumers and eventually to decomposers. Energy enters the ecosystems by sunlight and is transformed by producers into energy that is used by consumers, etc. A continual source of energy is required to maintain an ecosystem as energy “flows” through ecosystems.
5. **Human Impact** – Human activities have a tremendous impact on ecosystems through activities that may include construction, agriculture, over-harvesting, and introduction of non-native species, etc. These activities have both intentional and unintentional consequences on individual species, communities, and entire ecosystems.