GENERATIONGENIUS
STREAM. EDUCATE. ENTERTAIN.

TEACHER INFO

ECOSYSTEMS
GRADES 3-5

COMMON MISCONCEPTIONS

- The more of one type of animal, the better.
  Although diversity and many types of animals is a good thing for an ecosystem, too many of one particular animal may create an imbalance in a habitat.

ECOSYSTEMS

An ecosystem is a community of interacting organisms and their environment. It refers an area (of any size) where living things interact with each other and also non-living things like soil, water and air. Organisms can only survive in an ecosystem when their specific needs are met. If an organism's needs are not met, it must adapt, move or it won't survive. An ecosystem is in balance when all needs are met for all components. If something changes, the ecosystem may become unbalanced.

BIODIVERSITY

A healthy ecosystem has many different kinds of organisms living in balance. Diversity means different organisms play different roles. However, newly introduced organisms can throw off the balance of an ecosystem. Invasive species are living things not naturally found in a particular ecosystem. They may or may not be able to survive in a new environment, but if they do the can introduce a change that impacts the ecosystem.

HUMAN IMPACTS

Humans are part of ecosystems. The roles we play can impact the ecosystems we live in, but we also have the potential to impact ecosystems far away and around the planet. Human impacts to ecosystems can be both positive and negative.

CONTEXT AT THE ELEMENTARY LEVEL

Although the ecosystem subject matter addressed by this lesson makes no direct mention of biological evolution, it is important to note that student learning here builds a foundation for later understanding of evolutionary processes. The concept that "for any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all" (NGSS Disciplinary Core Idea LS4.C Adaptation, 3-LS4-3) is a key to student's later comprehension of ecological niches and natural selection. The idea that "when the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die" also addresses dynamics related to natural selection and adaptation (NGSS Disciplinary Core Idea, LS2.C: Ecosystem Dynamics, Functioning, and Resilience, 3-LS4-4).