

Laura McShane

Mammoths, Mastodons, and Elephants 40 min

Objective:

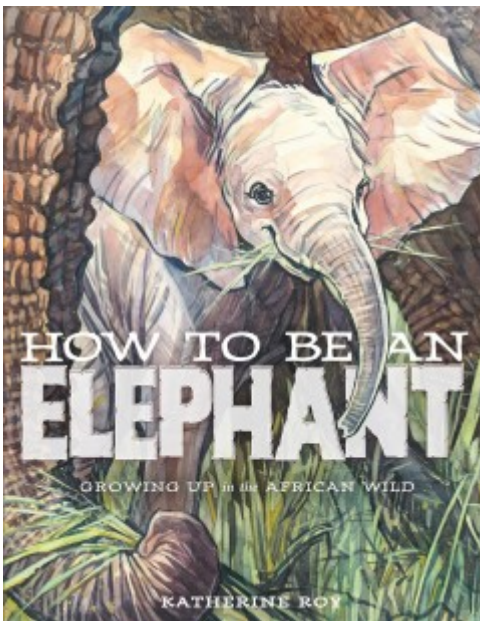
Build understanding of past and current ecosystems

Big Idea:

Understand factors that affect animal survival in an ecosystem

1. Warm Up / Anticipatory 10 min

Read [How To Be An Elephant](#) by [Katherine Roy](#)



Discuss the baby elephant's ecosystem

What is an **ecosystem**? An ecosystem is a community of living organisms and their non-living surroundings in a given area.

A community, like a pond, can be an ecosystem if an organism has all it needs to survive--water, food, shelter, and space. A forest can also be seen as an ecosystem. **Climate** affects ecosystems. Climate is the typical weather of an area experienced over many years that includes sunlight, rainfall, wind, snow, temperature.

Ecosystems found in a large geographical region that has its own distinctive climate, plants and animals are called a biomes.

Ocean, freshwater, desert, mountain, forest, grassland, rainforest, tundra are some biomes.

Ecosystem components-

LIVING/Biotic: Plants, Animals, Microorganisms Producers/Consumers, Herbivores, Carnivores, Omnivores, Scavengers, Decomposers

NON-LIVING/Abiotic: Air, Water, Rocks, Soil

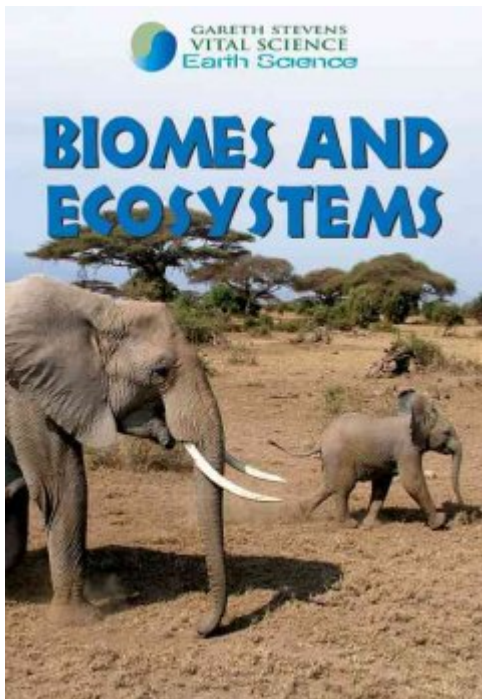
We live on a dynamic planet. You are visiting the [Cleveland Museum of Natural History](#) this week and will be seeing how our planet has changed over time. You will see prehistoric dinosaurs, mammoths and mastodons. Next week, you will see live elephants at the Cleveland Metroparks Zoo.

NOTE: Verna Aardema's [Bringing the Rain to Kapiti Plain](#) is a wonderful story to all share. It illustrates interdependence of living and non-living elements in an ecosystem.

<https://www.rif.org/literacy-central/book/bringing-rain-kapiti-plain>

For older students:

[Biomes and Ecosystems](#) by Barbara Davis



Resources

- Bringing the Rain to Kapiti Plain <https://www.youtube.com/watch?v=wOGMrVbPBe4>

- <http://wg.wonderopolis.org/uploads/users/1209/462/C841F014-FAD5-4F89-B6DD-9E890E6ABD7E-COLLAGE.jpg>
- <http://wg.wonderopolis.org/uploads/users/1209/462/008.JPG>
- <http://wg.wonderopolis.org/uploads/users/1209/462/P1150217.JPG>

2. Investigation and New Learning 20 min

[From: A MAMMOTH WORLD. Authors:Witze, Alexandra Source: Science News; 11/24/2018, Vol. 194 Issue 10, p22-27, 6p, 10 Color Photographs, 1 Graph \(access Infohio.org\)](#)

Subject Terms:

MASTODONS

MAMMOTHS

MAMMAL extinction

CLIMATE change

HERBIVORES

HUNTING

"Ernie" is the largest fossil mastodon ever found in North America at the [Gray Fossil Site](#) in Tennessee.



A cast of a lower leg bone of a modern-day African elephant is dwarfed by the fossilized lower leg of Ernie, the enormous Tennessee mastodon.

Mastodon teeth (top) featured sharp cusps that were well-adapted to grinding up woody material such as twigs and leaves. Mammoth teeth (one shown, bottom) were flatter, to better grind grasses.



Experts believe mammoths and mastodons probably went extinct because of some combination of human hunting and climate change, with those factors varying around the globe. Different species winked out at different times in different locations; most vanished by around 11,000 years ago as the great northern ice sheets receded and temperatures rose.

Metroparks' [Connections to Africa Kit](#) includes - a cast of an elephant foot and elephant tooth. We will share these casts, and elephant poop! - and provide a hands-on inspection of real ancient [fossils](#) from our area and a [dinosaur craft to take home](#).

Resources

- <http://wg.wonderopolis.org/uploads/users/1209/462/Mastodon.png>
- <http://wg.wonderopolis.org/uploads/users/1209/462/Matodon2.JPG>

3. Review & Check for Understanding 30 min

Students will visit Cleveland Museum of Natural History and Cleveland Metroparks Zoo.



Habitat exhibit at the Cleveland Metroparks Zoo - offers educators chance to compare local habitat to exhibits that recreate habitat of African plains and other biomes.