

The Secret World of Elephants

BACKGROUND FOR EDUCATORS

Overview of Student Worksheets

Using worksheets as a guide, students visit life-size models and/or fossils of four species of the elephant family. Based on their observations, students make connections between adaptations and environmental conditions.

These observations will help students experience a **natural phenomenon**—that elephants and their relatives can have different physical traits. This phenomenon should serve as an anchoring point in student exploration and discussion as they seek answers to these **investigation questions**: What do the physical traits of animals tell us about their habitats? How might changes in environmental conditions affect how species evolve over time?

Extension Ideas

Back in the classroom, students write and illustrate an evolutionary story of the dwarf elephant that lived on the island of Sicily: In less than 500,000 years (a relatively short time frame), the dwarf elephant (*Palaeoloxodon falconeri*) evolved directly from the much larger straight-tusked elephant (*Palaeoloxodon antiquus*). What changes in the physical environment resulted in the emergence of the new species?

Correlation to Standards

This activity supports the following Next Generation Science Standards:

Performance Expectations	MS-LS4-2: Natural Selection and Evolution Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.
Disciplinary Core Ideas	LS4.C-M1: Natural Selection and Evolution Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environments become more common, those that do not become less common. Thus, the distribution of traits in a population changes.
Crosscutting Concepts	PAT-M3: Patterns Patterns can be used to identify cause-and-effect relationships.
Science & Engineering Practices	CEDS-M4: Constructing Explanations and Designing Solutions Apply scientific ideas, principles, and/or evidence to construct, revise, and/or use an explanation for real-world phenomena, examples, or events.