

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	HS-LS4-5: Natural Selection and Evolution Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.
Disciplinary Core Ideas	LS4.C-H4: Natural Selection and Evolution Changes in the physical environment, whether naturally occurring or human induced, have thus contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline—and sometimes the extinction—of some species.
Crosscutting Concepts	CE-H2: Cause and Effect Cause and effect relationships can be suggested and predicted for complex natural and human designed systems by examining what is known about smaller scale mechanisms within the system.
Science & Engineering Practices	ARG-H2: Engaging in Argument from Evidence Evaluate the claims, evidence and/or reasoning behind currently accepted explanations or solutions to determine the merits of arguments.