



Amazing Adaptation

High School

Duration

Museum Visit: 60 minutes

Post Visit: 30 minutes

Location

Dinosaur Hall

Supplies

- Worksheet
- Pencil
- Clipboard (optional)

Standards

[NGSS](#)

HS-LS4

[S+E Practices](#)

4, 6, 7, 8

[CCSS ELA](#)

WHST.9

[CA State](#)

Evolution 8.a.e

Investigation and
Experimentation 1.d

Vocabulary

Adaptation · Natural
Selection · Evolution ·
Selection Pressure ·
Artificial Selection ·
Observation · Inference ·
Hypothesis · Habitat

Concepts

- Scientists infer how ancient animals survived using observational evidence from fossils.
- Pressures from the environment drive adaptation and evolution
- Evolution by natural selection determines the differential survival of organisms.

Objectives

- Students will observe a specimens and articulate its adaptations.
- Students will make inferences about how that animal survived.
- Students will hypothesize what the specimen's habitat was like and support their ideas with evidence.
- Students will consider the impact of environmental changes on the survival of the specimen.

Outline

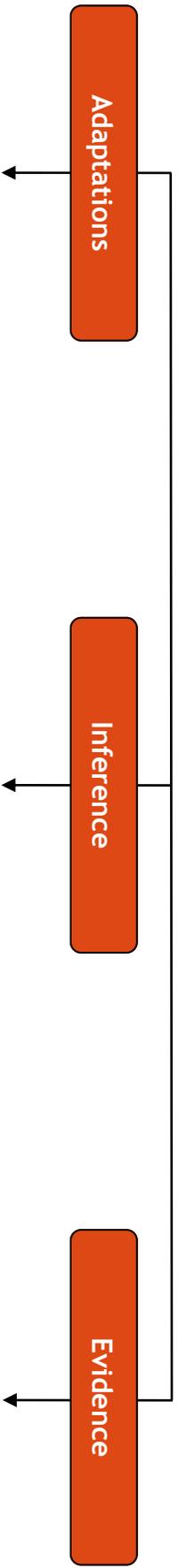
1. This lesson assumes that students know what adaptations are and how they relate to evolution. If necessary, pre-visit introduce the idea of evolution by natural selection if it has not already been explored.
2. At the Museum allow students to look around the Dinosaur Hall, then focus on a single specimen to complete the worksheet.
3. Back in the classroom, form student groups based on those that observed the same or similar specimens and ask them share their ideas/responses with each other. As they do this, walk around and listen for key ideas from students that are interesting or warrant clarification and discuss them with the whole class. During both portions of this reflection, challenge students to verbally articulate what they saw or read that made them come to a particular conclusion.



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Adaptations as Evidence

Adaptations tell us about how an animal used to live. Choose a specimen to observe closely in the Dinosaur Hall and write its name at the top of the Tree Map. Using your own observations and available information in the exhibit, complete the Tree Map. First, note adaptations, then infer what those might mean for the life of the animal. Back up your inferences using observable evidence, i.e. what do you see that makes you say that?



Environment and Natural Selection

Many generations of natural selection has resulted in the adaptations you observed on this specimen. With this in mind, answer the following questions. Use additional paper if necessary.

1. Based on your observations (and any other evidence in the exhibit), what might the habitat of this animal have been like?
2. What might be some selection pressures from the environment that drove the natural selection and subsequent evolution of this specimen? Use observable adaptations as support for your ideas.
3. Imagine your specimen living in the city of Los Angeles, would it survive? Why or why not?
4. If you could breed your specimen and artificially select for traits so that future generations would be successful in the Los Angeles city habitat, what might those traits include? Articulate how traits would support your specimen's survival.