

# Understanding Traits

## Learning Objectives

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By the end of this lesson, students will be able to:

- Identify observable traits in animals and explain their possible functions.
- Compare traits across species and explore whether they are the result of divergent or convergent evolution.
- Understand the concept of a last common ancestor and explain its role in tracing evolutionary relationships among species.
- Describe how traits can help organisms survive in specific environments.
- Recognize the importance of traits in conservation and de-extinction efforts.

## Key Takeaways

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- Traits can be structural, behavioral, or physical.
- Shared traits across species may reflect either common ancestry or convergent evolution.
- Understanding traits helps scientists trace evolutionary relationships and make more informed decisions in conservation science.

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### Preteaching

### Vocabulary

- a. Pass out the viewing guide so the students can start the lesson with this question
- b. Once students have had time to answer the questions have them share their answers with a nearby partner (*optional*)

## Preteaching

## Video

- c. Students will continue filling out the viewing guide as the video plays.

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## Activity A: Guided Reading | Evolution

This guided reading activity is designed to reinforce the topics of convergent & divergent evolution while also building on what the video discussed to cover the concept of “the last common ancestor”.

**Section 1** focuses on explaining what is meant when we say “the last common ancestor”. The first question addresses a common misconception with evolution. Humans did not evolve from chimpanzees. We evolved alongside them.

**Section 2** assesses whether or not the students understand the concepts of convergent and divergent evolution.

**Section 3** introduces the concept of “derived traits”. In evolutionary biology, this refers to new traits that evolved in a species after it split from a common ancestor. When comparing polar bears to grizzly bears, polar bears are the more “derived” species as they have changed more since the two bears last shared a common ancestor.

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## Activity B: Exploring Traits

In this activity, students will select three animals (extinct or living) and explore one trait for each. For every trait, students will research its function and how it may have evolved, using reliable sources. Once their research is complete, they will write a short explanation of each trait that could be used to teach a peer.

Optional:

After writing, students can group up to share what they found. This peer discussion gives students an opportunity to compare traits across species, deepen their understanding of evolutionary processes, and ask questions in a collaborative setting.

If you decide to do this I would recommend letting the students know beforehand that they will be sharing their research. In my experience it can lead to more engagement and increased performance.

This activity is designed to build background knowledge and support the development of research and communication skills, while preparing students for the comparative work in Activity 2.

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### Links

[Viewing Guide](#)

[Instructional Slides With Example](#)

[Activity 1: Packet](#)

[Activity 1: Answer Key](#)

[Activity 2: Exploring Traits](#)



