

Earthworms and Other Annelids

Biological Classification Series

Grade Levels:

Grades 5-10

Subject Areas:

Science

Life Sciences

Biology

Synopsis:

Live-action film footage highlights the characteristics of earthworms; their annelid features such as a soft, segmented body with defined head and anus, their muscles for locomotion, and their thick skin full of blood vessels that secrete a viscous liquid. Also films the annelid characteristics of leeches, including the mandibles that enable them to suck blood from their prey. Specimens of marine annelids extend the understanding of annelid characteristics with a focus on the adaptations of arenicola and giant worms found in the depths of the ocean.

Learning Objectives: Students will:

Understand that earthworms are invertebrates with segmented bodies.

Explain how earthworms move and why they stay out of the sun.

Understand that earthworms are beneficial for plant nutrition.

Understand how marine annelids have adapted to their watery environment.

Understand that over 14,000 species of annelids have been cataloged and that 200 new species are discovered every year.

Vocabulary:

densest, segmented, annelid, anus, bristles, locomotion, aerate, nutrition, viscous, mucous, humidity, manure, leeches, mandible, bloodsucker, arenicola, lugworm, ingurgitating, orifice, nutritive, marine annelids, adaptations, filaments, calcareous, carnivorous

Pre-Viewing Discussion:

Have you ever played with earthworms? What do they feel like when you pick them up? What happens when you release them back into the soil? Have you made any other observations about earthworms?

Are earthworms beneficial to gardens or are they just a nuisance?

Those of you who go fishing may have captured worms to use for bait. How did you go about capturing them? Why do some fishermen look for worms at night?

Do earthworms have skeletons? How can you tell which end of the worm is its head?

Post-Viewing Discussion:

What does it mean when we saw a species is the “densest” of all animal populations? What examples prove that annelids are the “densest” of all animal populations?

How does an earthworm move? Why does it prefer to burrow into the ground?

Why should we protect earthworm populations?

Why are leeches classified as annelids? How are they able to suck blood from their victims?

How do worms found at the beach differ from those found in the backyard? What are the unique characteristics of arenicola, marine annelids, and giant worms?

Further Activities:

Find out which of the five major classification groups earthworms and other annelids are in (i.e. Kingdom, Phylum, Class, Order, Family). Chart the relationships of animals in the largest to the smallest taxonomic groups around them. What characteristics make this group similar to and different from the other groups to which they are related? Then, pick one species from the program and determine its genus and species name, writing them in the proper scientific terminology. Find out why the genus and species name is written the way it is.

In spite of their numbers, certain species of arenicola are endangered. Find out all you can about these threatened species, why they are endangered and what is being done to save them from extinction.

Investigate the habitat and special adaptations of giant worms. How can they exist where no light penetrates the darkness and where superheated water spews over them from underwater volcanoes?

Do further investigation of how the common earthworm differs from the manure worm. Compare their common characteristics, isolate their differences and reach a conclusion about how their differences affect their ability to survive in backyard gardens.

Investigate the characteristics of leeches that have made them beneficial to medicine throughout the ages. Are leeches still used in medicine? How are they used? Could they save a life?

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