



High School Science Virtual Learning

College Biology

April 14, 2020



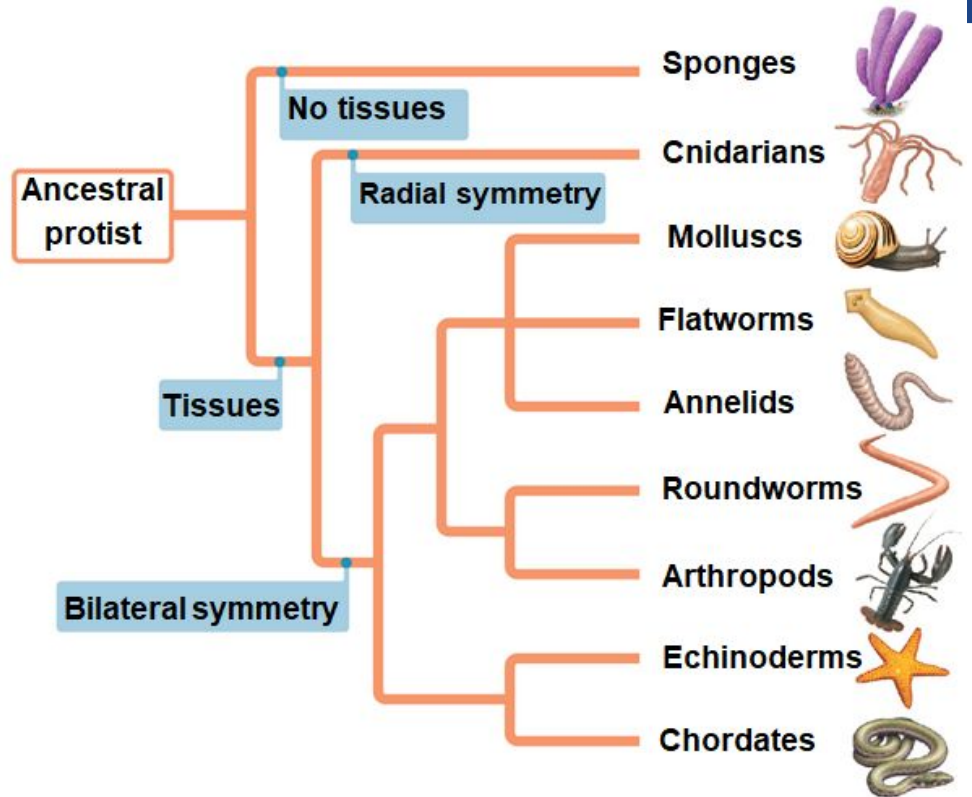
High School College Biology
Lesson: April 14, 2020

Objective/Learning Target:

Students will be able to identify the key characteristics that distinguish Arthropods and Echinoderms

Let's Get Started:

1. Which phylum is most closely related to the roundworms?



Let's Get Started Continued:

2. What type of “worm” is this? How do you know?





Answers:

1. Arthropods
2. Annelid; it has segments.



Lesson Activity:

1. Read over pages 16-23 of the Chapter 17 Notes. ([Linked Here](#))
2. Watch this Crash Course video on [Arthropods](#). (Start at 4:54)



Practice:

Complete the webquest on Arthropods here ([Link](#))

As you move through the webquest be sure to keep this question in mind: How has the evolution of arthropods influenced the evolution of other animal groups?

Webquest Answer Key

1. 83%
2. Insects, crustaceans, spiders, scorpion, and centipedes
3. Arthropods are the most abundant and diverse group of organisms on the planet. They are found in nearly every corner of the Earth and play an important role in every ecosystem.

Answer Key

4. The wingless fly is one of the very few land animals native to Antarctica, and at just one centimeter (less than ½ inch) long, it is also the largest!!

- The crustacean *Gammarus wilkitzkii* makes a living on the *underside* of the Arctic ice pack, feeding on other crustaceans.
- There are crabs that live more than a mile beneath the ocean surface in the harsh environment around hydrothermal vents. They make their livings in total darkness and can withstand intense pressure, severe temperatures, and the caustic chemicals that are characteristic of these vents.

Answer Key

4. The hands-down winner in the extreme altitude contest is a jumping spider species that lives almost seven kilometers (22,000 feet) above sea level on the snow-covered slopes of Mount Makalu (just east of Everest).

- *Scolopendra gigantea*, the largest centipede species on Earth, lives in the Amazon of South America. It grows to over 30 cm (about a foot) long and hunts small mammals, lizards, and frogs!
- The *Melophorus* ants of the Australian desert can withstand extreme heat — temperatures higher than 60 C (140 F)!

Answer Key

5. Cleaner shrimp - removes parasite from fish

6. Australian trapdoor spiders - build elaborate traps for their prey

7. Leafcutter ants - live on fungal farms

8. *Cymotha exigua* - parasite that lives inside a fish's mouth

9. Locusts - move in swarms, can strip a field bare in minutes

Answer Key

10. More than 500 million years

11. Myriapods, trilobites, Chelicerates, insects and crustaceans

12. Bilateral symmetry, segmented body, exoskeleton, jointed legs, many pairs of limbs

13. Bilateral, radial

Answer Key

14. A - scorpion, moth, mouse B - jelly, starfish

15. Segmented - scorpion, millipede :

16. unsegmented - jelly, mouse

17. Chitin

18. Provides protection and prevents water loss

Answer Key

19. Lobster, locusts and ant

21. (yes, there is no #20) spiders, crabs, lobsters

22. Centipedes, millipedes and spiders

Practice

1. What are the main features of an arthropod?
2. What is the most diverse form of life on Earth? Why?
3. Where are all 7,000 species of echinoderms located?

Practice Answers

1. Jointed appendages, Exoskeleton, Specialized body segments
2. Insects are by far the most diverse form of life on Earth. They outnumber all other forms of life combined. Insects are really old, like 400 million years old, and they occupy nearly every habitat on Earth.
3. All echinoderms are marine organisms



Review Tools:

- [Kahoot 2](#)
- Mr. Anderson [Video](#) about animals