



High School Science Virtual Learning

General Biology

Classification: Arthropods

May 12, 2020



High School Science

Lesson: May 12, 2020

Objective/Learning Target:

Students will be able to learn about and explain the characteristics of Arthropods

Let's get started:

1. Make a list of similarities between a lobster and a beetle.
2. Why do you think that Arthropods have been so successful as a group?

Let's get started: **Answer Key**

1. Answers will vary. Some common similarities would be multiple legs, exoskeletons, and perhaps the presence of pinchers, depending on the species of beetle.
2. Arthropods are incredibly diverse. They inhabit nearly every type of environment found on Earth.

Lesson Activity:

Directions:

1. Watch the short [video](#) from the Smithsonian Institution to get some fundamental information on Arthropods.
2. Next, read some more information about Arthropods on this [page](#).



Practice



You will use the information from the previous article, videos and your answer keys to help answer the following questions.

Practice Questions

1. What are three features that all arthropods share?
2. What are the five major groups that arthropods are divided into?
3. How can you tell a centipede from a millipede?
4. What two groups of animals are included in the arachnid group?
5. What is one feature present in some insects but none of the other groups of arthropods?
6. What does the term arthropod mean?

Practice Questions (continued)

7. In addition to protection what important ability did Arthropods gain from their exoskeleton?
8. What is molting?
9. The article states that 90% of animals are insects. How is this possible?
10. You are designing a new organism to inhabit Earth. Would you give it a exoskeleton like in arthropods or an internal skeleton like the one found in humans? Why?

Answer Key

1. Jointed appendages, exoskeleton and bilateral symmetry are features that are shared by all arthropods.
2. Arthropods consist of five major groups: millipedes, centipedes, crustaceans, arachnids and insects. ‘
3. Centipedes have two legs per body segment and millipedes have four legs per body segment.
4. Scorpions and spiders make up the Arachnid group.
5. Insects are the only group whose members may have wings.
6. Arthropod is Greek and translates to “jointed legs”.

Answer Key (continued)

7. The exoskeleton prevents arthropods from drying out which allowed them to live on land.

8. Molting is when an arthropod sheds its exoskeleton and grows a new one. The hard exoskeleton cannot grow so the organism must shed it in order to grow.

9. Insects are incredibly diverse. They fill many niches that other organisms can't or simply won't. They have been evolving far longer than most organisms and have found ways to survive almost anywhere.

Answer Key (continued)

10. There really is no wrong answer here. Exoskeletons have proven to be successful. Even though you need to molt, you can't argue with the success of the Arthropod phylum. Endoskeletons have also shown to be very successful with mammals and reptiles.

Some common misconceptions about Arthropods

Hopefully from today's lesson you learned that not all "bugs" are the same. People tend to associate anything that crawls as bug when really they all belong to very distinct groups of organisms.

Read the [article](#) here for some more misconceptions about insects.



More Practice



For more fun studying arthropods visit this [link](#).

Additional Resources

- Crash Course video on [Arthropods](#)
- Interesting article on [Arthropods](#)