

Life Sciences 11

LG 16

Invertebrates

Phyla: Porifera, Cnidaria, Platyhelminthes, Nematoda

Invertebrates introduce us to one of the most diverse and successful groups of animals on Earth. The vast majority of animals on our planet are invertebrates, organisms that do not have a backbone. From insects buzzing in your backyard to jellyfish drifting through the ocean, invertebrates occupy nearly every habitat on the planet and play essential roles in maintaining healthy ecosystems.

The term *invertebrate* includes many different phyla, each with unique body structures, survival strategies, and evolutionary histories. Some, like sponges, have simple body plans with no true tissues. Others, such as worms and mollusks, show increasing levels of organization and specialization. Arthropods (including insects, spiders, and crustaceans) are the most successful animal group of all, with millions of species identified and many more still undiscovered. Despite lacking a backbone, many invertebrates have developed other forms of support and protection, such as exoskeletons, shells, or hydrostatic skeletons.

Invertebrates are critical to life on Earth. They pollinate crops, decompose waste, recycle nutrients, aerate soil, form the base of food webs, and even help regulate populations of other organisms. Coral reefs (built by tiny invertebrate animals!) support some of the richest ecosystems in the world. Without invertebrates, ecosystems would collapse, and life as we know it would look completely different.

Studying invertebrates helps us understand the evolutionary progression of body plans, symmetry, segmentation, and organ system development. They provide insight into how complex structures evolved over time and how adaptation allows organisms to survive in nearly every environment imaginable. By exploring invertebrates, we begin to see that a backbone isn't required for success... sometimes strength, resilience, and innovation come in the smallest and spineless packages. Why did the jellyfish get good grades in the Biology 11 class? Because it really *gelled* with the material.

LG 16 Hints: Read the assigned sections carefully and **take detailed notes as you go**. A portion of (LG) mark will be based on the notes you submit.

Reading and taking organized notes helps you to process information, so focus on identifying the most important ideas rather than copying everything word-for-word. Aim to summarize key concepts in your own words. A helpful strategy is to use clear headings and subheadings to organize your notes. This can make the material easier to review later. Ultimately, choose a note-taking style that works best for you, but make sure your notes are clear, organized, and show thoughtful engagement with the reading.

Name:

Due Date:

TA:

Instructions: Use your Biology 11 Life Sciences textbook to complete the sections below.

You can also use the following link:

[Biology Miller Levine Chapter 26.pdf \(thssscience.com\)](http://thssscience.com/Biology_Miller_Levine_Chapter_26.pdf)

1. Read pages 552-560

- a) Take notes on the above reading.
- b) Answer questions 1-4 on page 560

2. Read pages 560-563

- a) Take notes on the above reading
- b) Answer questions 1-3 on page 563

3. Read pages 564-569

- a) Take notes on the above reading.
- b) Answer questions 1 – 4 on page 569

4. Read pages 570-578

- a) Take notes on the above reading.
- b) Answer questions 1 – 5 on page 578

5. Complete the following questions from the Chapter Review

- a) Complete the multiple-choice questions (#'s 1-8) on page 582
- b) Complete the true or false questions (#'s 1-8) on page 582

6. Watch the Southwest Science video on invertebrates before completing this guide.

Title: Invertebrate Characteristics and Phyla

https://www.youtube.com/watch?v=Fz_x4rPROaM

- a) List 2 interesting facts you learned from the above video