

CLASS 11

BIOLOGY

EXTRA QUESTIONS

Class 11 Biology Chapter 4 Animal Kingdom – Extra Questions with Answers

Extra practice questions for Class 11 Biology Chapter 4 (Animal Kingdom), beyond the textbook. These Class 11 Biology Chapter 4 important questions are handy for last-minute exam practice.

Contents

- Very Short Answer Questions (1 mark)
- Short Answer Questions (2–3 marks)
- Higher-Order Thinking / Application Questions
- Class 11 Biology Chapter 4 – Solutions and Notes

Extra practice questions for Class 11 Biology Chapter 4 (Animal Kingdom), beyond the textbook. These Class 11 Biology Chapter 4 important questions are handy for last-minute exam practice.

Very Short Answer Questions (1 mark)

Q1. Give an example of an acoelomate animal.

Ans: Flatworm (e.g. Planaria) — Phylum Platyhelminthes.

Q2. Which phylum shows radial symmetry and is diploblastic?

Ans: Cnidaria (e.g. Hydra).

Q3. What is the water vascular system associated with?

Ans: Phylum Echinodermata.

Q4. Name the simplest multicellular animals, organized at the cellular level.

Ans: Sponges (Phylum Porifera).

Q5. What is a notochord?

Ans: A flexible rod-like structure found in chordates, running along the back, providing skeletal support (at least during embryonic development).

Short Answer Questions (2–3 marks)

Q6. Differentiate between diploblastic and triploblastic animals.

Ans: Diploblastic animals have two embryonic germ layers (ectoderm, endoderm), e.g. Cnidaria; triploblastic animals have three (ectoderm, mesoderm, endoderm), e.g. most other animal phyla.

Q7. List the five classes of Vertebrata.

Ans: Pisces, Amphibia, Reptilia, Aves, Mammalia.

Q8. What type of symmetry is found in Echinodermata as adults versus larvae?

Ans: Adults show radial symmetry; larvae show bilateral symmetry.

Higher-Order Thinking / Application Questions

Q9. Explain why the presence of a true coelom (as in annelids, molluscs, arthropods, and chordates) is considered a significant evolutionary advancement over the pseudocoelomate or acoelomate condition, discussing the functional advantages a coelom provides.

Ans: A true coelom, being fully lined by mesoderm on both the body wall side and the gut side, provides several key functional advantages over acoelomate or pseudocoelomate body plans. First, it allows for a fluid-filled cavity that can act as a hydrostatic skeleton, enabling more efficient and complex movement (e.g. via muscle contraction against the incompressible coelomic fluid), which is especially important in soft-bodied animals like earthworms. Second, the coelom provides space for internal organs to develop, grow, and move somewhat independently of the body wall (reducing friction and allowing organs like the gut to have their own peristaltic movements without dragging the whole body wall with them), supporting greater organ specialization and more complex organ systems (e.g. well-developed circulatory, excretory, and reproductive systems). Third, having mesoderm on both sides of the coelomic cavity supports better development of the muscular and connective tissue layers of both the body wall and gut wall, contributing to a more efficient, complex triploblastic body organization overall. This is why coelomate animals like annelids, molluscs, arthropods, and chordates show much greater complexity, larger body size potential, and more specialized organ systems compared to acoelomate (e.g. flatworms) or pseudocoelomate (e.g.

roundworms) animals.

Q10. Explain why all vertebrates are chordates, but not all chordates are vertebrates, using the classification of Phylum Chordata into Protochordata and Vertebrata as your basis.

Ans: Phylum Chordata is defined by three shared features present at some stage of the life cycle: a notochord, a dorsal hollow nerve cord, and paired pharyngeal gill slits. This phylum is divided into two major groups: Protochordata (organisms like Amphioxus/Balanoglossus that possess the notochord throughout life or during the larval stage, but lack a true, bony/cartilaginous vertebral column replacing the notochord) and Vertebrata (organisms in which the notochord present in the embryo is replaced by a true vertebral column made of vertebrae during development). Since Vertebrata is defined as a specific subgroup within Chordata that has evolved this additional, more advanced feature (a true vertebral column) on top of the basic chordate features, every vertebrate necessarily also qualifies as a chordate (satisfying the notochord/nerve cord/gill slit criteria at some life stage). However, Protochordates satisfy the basic chordate criteria without ever developing a true vertebral column, meaning they are chordates but not vertebrates — illustrating that Vertebrata is a more specialized, nested subset within the broader Chordata phylum, not a synonym for it.

Class 11 Biology Chapter 4 – Solutions and Notes

For complete step-by-step answers and a quick summary, check the [Class 11 Biology Chapter 4 Solutions](#) and [Class 11 Biology Chapter 4 Revision Notes](#).

See also: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#)

Practice more: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#)

Quick revision: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#)