CLASS 9 SCIENCE EXTRA QUESTIONS

Class 9 Science Chapter 12 Patterns in Life: Diversity and Classification – Extra Questions with Answers

Extra practice questions for Class 9 Science Chapter 12 (Patterns in Life: Diversity and Classification), beyond the textbook. These Class 9 Science Chapter 12 important questions are handy for last-minute exam practice.

Contents

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Very Short Answer Questions (1 mark)

Q1. Name the five kingdoms of classification.
Ans: Monera, Protista, Fungi, Plantae, Animalia.

Q2. Which kingdom includes only unicellular, prokaryotic organisms?
Ans: Monera.

Q3. Give the scientific name for humans.
Ans: *Homo sapiens*.

Q4. Name one plant group that has true roots, stems, and leaves but does not produce seeds.
Ans: Pteridophyta (ferns).

Q5. Are viruses made of cells?
Ans: No, they are acellular.

Short Answer Questions (2–3 marks)

Q6. Differentiate between invertebrates and vertebrates, with one example of each.
Ans: Invertebrates lack a backbone, e.g. insects, molluscs, worms. Vertebrates have a backbone, e.g. fish, amphibians, reptiles, birds, and mammals.

Q7. Why is binomial nomenclature considered important in biology?
Ans: It provides a single, universal, standardised name for each species using genus and species, avoiding the confusion caused by different common/local names for the same organism in different languages or regions, allowing scientists worldwide to communicate clearly about the same species.

Q8. Explain why fungi are classified separately from plants, even though both were once grouped together.
Ans: Unlike plants, fungi cannot photosynthesise (make their own food); they absorb nutrients from their surroundings (often from dead or decaying matter), which is a fundamentally different mode of nutrition, justifying their classification into a separate kingdom (Fungi) rather than with Plantae.

Higher-Order Thinking / Application Questions

Q9. A newly discovered organism is unicellular, has a true nucleus, and can move using a whip-like tail (flagellum), but doesn't fit clearly into plant, animal, or fungal categories. Which kingdom would it most likely be classified under, and why?
Ans: It would most likely be classified under Protista, since this kingdom includes unicellular, eukaryotic organisms (having a true nucleus) that don't fit the specific multicellular, defined characteristics of Plantae, Animalia, or Fungi — Protista often serves as a category for diverse, simple eukaryotic life forms like this.

Q10. A scientist observes a sample of what appears to be a virus. Outside a host cell, it shows no metabolic activity and cannot reproduce, but once introduced into a host cell's cytoplasm, it begins replicating rapidly. Using this observation, explain why classifying viruses as strictly "living" or "non-living" is difficult.

Ans: Outside a host cell, the virus behaves like a non-living particle — showing none of the usual signs of life such as metabolism or independent reproduction. However, once inside a host cell, it can hijack the host's cellular machinery to replicate, a behaviour associated with living things. Because it displays characteristics of both living and non-living matter depending on its environment, it doesn't fit cleanly into either category, making its classification genuinely debated among biologists.

See also: Chapter 1 | Chapter 2 | Chapter 3 | Chapter 4 | Chapter 5 | Chapter 6 | Chapter 7 | Chapter 8 | Chapter 9 | Chapter 10 | Chapter 11 | Chapter 12

Practice more: Chapter 1 | Chapter 2 | Chapter 3 | Chapter 4 | Chapter 5 | Chapter 6 | Chapter 7 | Chapter 8 | Chapter 9 | Chapter 10 | Chapter 11

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