

CLASS 9

SCIENCE

NCERT SOLUTIONS

NCERT Solutions for Class 9 Science Chapter 12: Patterns in Life: Diversity and Classification – Free PDF Download

Chapter 12 of Class 9 Science Exploration is Patterns in Life: Diversity and Classification. It explains why living organisms are classified into groups, the five-kingdom system used to organise all life, the major divisions within plants and animals, naming conventions, and organisms that blur the line between livi...

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Chapter 12 of Class 9 Science *Exploration* is Patterns in Life: Diversity and Classification. It explains why living organisms are classified into groups, the five-kingdom system used to organise all life, the major divisions within plants and animals, naming conventions, and organisms that blur the line between living and non-living. These Class 9 Science Chapter 12 solutions are also useful as quick revision notes before exams.

Why Classify Living Organisms?

Classification organises the enormous diversity of life into a manageable, logical system based on shared characteristics, making it easier to study, identify, and understand relationships between organisms.

The Five-Kingdom Classification System

Monera — unicellular, prokaryotic organisms (bacteria).

Protista — unicellular, eukaryotic organisms (e.g. amoeba, paramecium).

Fungi — multicellular (mostly), eukaryotic, absorb nutrients from their surroundings (e.g. mushrooms, yeast).

Plantae — multicellular, eukaryotic, photosynthetic (make their own food).

Animalia — multicellular, eukaryotic, cannot make their own food (heterotrophic).

Major Divisions of Plants

Plants are broadly divided by whether they produce seeds and flowers: **Thallophyta** (algae, no true roots/stems/leaves), **Bryophyta** (mosses, amphibians of the plant world), **Pteridophyta** (ferns, first plants with true roots/stems/leaves but no seeds), **Gymnosperms** (naked-seeded plants, e.g. pines), and **Angiosperms** (flowering, seed-bearing plants, further divided into monocots and dicots).

Major Divisions of Animals

Animals are broadly divided into **invertebrates** (no backbone, e.g. insects, molluscs, worms) and **vertebrates** (with a backbone, further divided into fish, amphibians, reptiles, birds, and mammals).

Binomial Nomenclature

Each species is given a scientific name with two parts — the **genus** name (capitalised) followed by the **species** name (lowercase), both italicised (e.g. *Homo sapiens* for humans) — a universal system that avoids confusion between different common/local names for the same organism.

Viruses: Acellular Entities

Viruses are acellular (not made of cells) and sit at the boundary of living and non-living: they show no signs of life (cannot reproduce, grow, or metabolise) outside a host cell, but can replicate and behave like living organisms once inside a host cell, making their classification uniquely debated.

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