

NCERT Solutions for Class 12 Biology Chapter 6: NCERT Solutions for Class 12 Biology Chapter 6 Evolution explain how life on Earth began and changed over time. This chapter discusses important topics like the origin of life, different theories of evolution, and the evidence that supports these ideas.

It also explains processes like natural selection, genetic drift, and how new species are formed. These solutions are written in a simple way to help students understand the concepts better. By practicing these, students can prepare well for their board exams and entrance tests like NEET.

NCERT Solutions for Class 12 Biology Chapter 6 Overview

NCERT Solutions for Class 12 Biology Chapter 6 Evolution explain the gradual development of life forms on Earth from simple to complex organisms. Evolution describes how living organisms have changed over time due to processes like natural selection, genetic variation, and environmental changes. The chapter discusses key concepts such as the origin of life, Darwin's theory of natural selection, adaptive radiation, and the formation of new species. These solutions simplify these ideas, helping students understand how life evolved and adapted over billions of years.

NCERT Solutions for Class 12 Biology Chapter 6 PDF

NCERT Solutions for Class 12 Biology Chapter 6 Evolution provide detailed explanations and answers to all the questions in the textbook helping students understand the concepts thoroughly.

To access the detailed solutions, download the PDF from the link provided below.

NCERT Solutions for Class 12 Biology Chapter 6 PDF

NCERT Solutions For Class 12 Biology Chapter 6 Evolution

Here is the NCERT Solution for Class 12 Biology Chapter 6 Evolution:

Chapter 6 of Class 12 Biology focuses on the concept of evolution, the process by which species change over time. The chapter discusses various theories, evidence, and mechanisms that explain how life on Earth has evolved over millions of years.

1. Explain antibiotic resistance observed in bacteria in light of Darwinian selection theory.

Answer:

According to Darwin's theory, organisms with beneficial traits survive better in their environment. In the case of bacteria, when antibiotics are used, most bacteria die, but a few with mutations that make them resistant survive. These resistant bacteria multiply quickly because there's less competition after the sensitive bacteria die. Over time, this leads to a population of antibiotic-resistant bacteria. These bacteria can also share their resistance genes with others, making the problem worse.

2. Find out from newspapers and popular science articles any new fossil discoveries or controversies about evolution.**Answer:**

A fascinating fossil discovery related to dinosaurs reveals their evolution during the Jurassic era. This finding helped scientists understand how reptiles evolved and how mammals and birds emerged. Recently, fossils like *Confuciusornis*, an ancient bird from China, sparked debates about how birds evolved from dinosaurs.

3. Attempt giving a clear definition of the term species.**Answer:**

A species is a group of organisms that can interbreed and produce healthy, fertile offspring.

4. Trace the various components of human evolution.**Answer:**

Human evolution involved changes in brain size, body posture, diet, and physical features over time. The stages are as follows:

Human Stage	Brain Size	Posture	Diet	Features
<i>Dryopithecus africans</i>	-	Ape-like, knuckle-walking	Leaves, fruits	Equal arms and legs, large canines
<i>Ramapithecus</i>	-	Semi-erect	Nuts, seeds	Large molars, small canines
<i>Australopithecus africanus</i>	450 cm ³	Fully erect	Herbivorous	Used tools, lived on trees
<i>Homo habilis</i>	735 cm ³	Fully erect	Carnivorous	First to make tools
<i>Homo erectus</i>	800–1100 cm ³	Fully erect	Omnivorous	Used advanced tools for hunting
<i>Homo sapiens fossils</i>	1650 cm ³	Fully erect	Omnivorous	Developed culture, made art

<i>Homo sapiens sapiens</i>	1200–1600 cm ³	Fully erect	Omnivorous	Highly intelligent, modern humans
-----------------------------	---------------------------	-------------	------------	-----------------------------------

5. Do animals other than humans have self-consciousness?

Answer:

Yes, some animals, like dolphins, show self-consciousness. They recognize themselves in mirrors and communicate using unique whistles and movements. Other self-aware animals include chimpanzees, parrots, crows, and orangutans.

6. List 10 modern-day animals and their corresponding ancient fossils.

Answer:

Modern Animal	Fossil Name
Horse	<i>Eohippus</i>
Man	<i>Ramapithecus</i>
Elephant	<i>Moeritherium</i>
Whale	<i>Protocetus</i>
Fish	<i>Arandaspis</i>
Giraffe	<i>Palaeotragus</i>
Dog	<i>Leptocyon</i>
Camel	<i>Protylopus</i>
Tetrapod	<i>Ichthyostega</i>
Bat	<i>Archaeonycteris</i>

7. Practice drawing various animals and plants.

Answer:

Start by tracing outlines of animals and plants from books or magazines. Use encyclopedias and the internet for more examples. Begin with simple drawings, gradually adding details like leaves, flowers, or feathers.

8. Describe one example of adaptive radiation.

Answer:

Adaptive radiation occurs when one species evolves into several different species to adapt to

various environments or food sources. A good example is Darwin's finches on the Galapagos Islands. From a common ancestor, finches developed different beak shapes based on their diets, such as seed-eating, insect-eating, and even blood-sucking.

9. Can we call human evolution adaptive radiation?

Answer:

No, human evolution isn't considered adaptive radiation. Although humans evolved from a common ancestor, this evolution didn't lead to the formation of multiple new species. Adaptive radiation refers to the diversification of one species into many, which isn't the case for humans.

10. Using various resources such as your school library or the internet and discussions with your teacher, trace the evolutionary stages of any one animal, say horse.

Answer:

The evolution of the horse began during the Eocene era with *Eohippus* and progressed as follows:

Eohippus → Mesohippus → Merychippus → Pliohippus → Equus

Key evolutionary traits:

- Body size increased over time.
- Neck lengthened for better feeding.
- Third digit expanded, while other digits disappeared.
- Teeth became stronger for eating grass.
- Limbs became broader and more robust.

Benefits of Solving NCERT Solutions for Class 12 Biology Chapter 6

Deep Conceptual Clarity: The solutions explain the principles of evolution, such as natural selection, adaptive radiation, and human evolution, providing a solid understanding of the chapter's key concepts.

Simplified Explanations: Difficult topics like the Hardy-Weinberg principle, mechanisms of evolution, and origin of species are presented in a step-by-step and easy-to-understand manner.

Preparation for Exams: The solutions align with the CBSE exam pattern, covering important questions likely to appear in the board exams, helping students practice effectively.

Enhances Critical Thinking: Questions like tracing human evolution and understanding adaptive radiation encourage analytical thinking and help students relate theoretical knowledge to real-world examples.

Time Management and Efficiency: Practicing NCERT solutions improves problem-solving speed and accuracy, ensuring students can manage their time effectively during exams.