

4.1.1 DEFINITION OF EVOLUTION

Meaning of Evolution

Evolution is the gradual change in living organisms over long periods of time. These changes occur from one generation to another through inherited characteristics.

Biological Definition

In biology, evolution refers to changes in genetic composition within populations across generations. Such changes may lead to adaptation and the formation of new species.

Continuous Process

Evolution is a continuous process that has occurred since the origin of life on Earth. Organisms gradually change as environments and genetic conditions change.

Role of Inheritance

Inherited traits play an important role in evolution because offspring receive genetic information from parents. Useful traits may become more common in future generations.

Variation and Evolution

Variation among individuals creates differences in survival and reproduction. These variations are important for evolutionary change.

Natural Selection

Natural selection favors organisms with advantageous traits. Over many generations, these traits spread throughout populations.

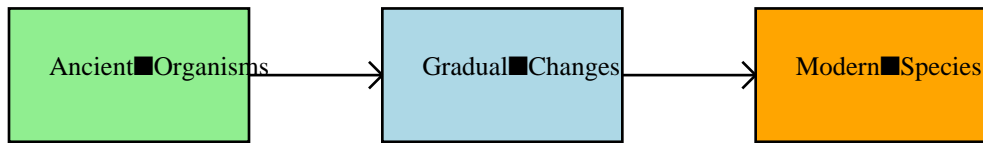
Evolution and Adaptation

Adaptation is closely related to evolution. Organisms develop characteristics that improve survival in specific environments.

Importance of Studying Evolution

Studying evolution helps scientists understand biodiversity, species relationships, and environmental adaptation.

Figure: Simplified Idea of Evolution



Evolution occurs through inherited changes over generations

Key Concepts

Concept	Explanation
Evolution	Gradual change in organisms
Variation	Differences among individuals
Inheritance	Passing traits to offspring
Adaptation	Features improving survival
Natural Selection	Selection of useful traits

Summary

Evolution is the gradual biological change occurring in organisms over generations. Inherited variations and natural selection contribute to adaptation and species diversity. Evolution explains the relationships among living organisms and the development of biodiversity.

Questions and Answers

What is evolution?

Evolution is the gradual change in organisms over generations.

Why is variation important?

Variation allows some organisms to survive better than others.

What is inheritance?

Inheritance is the passing of traits from parents to offspring.

How does natural selection work?

Organisms with useful traits survive and reproduce successfully.

Why do scientists study evolution?

To understand biodiversity and species relationships.

Study Notes

- Evolution occurs gradually over long periods.
- Organisms inherit traits from parents.
- Variation exists within populations.
- Natural selection influences survival.
- Adaptations improve fitness.
- Evolution explains biodiversity.
- Environmental changes affect evolution.
- Evolution continues in modern organisms.