

## 4.1.5 Human Evolution

Human evolution is the gradual development of modern humans from ancient ancestors over millions of years. Scientists study fossils, bones, tools, and DNA to understand how humans evolved.

### 1. Meaning of Human Evolution

Human evolution refers to the process through which modern humans developed from earlier primates. Humans and apes are believed to share a common ancestor.

### 2. Evidence for Human Evolution

Scientists use different types of evidence to study human evolution. **Fossils:** Fossils of early humans help explain physical changes over time. **Comparative anatomy:** Humans share many body structures with apes. **DNA evidence:** Human DNA is very similar to chimpanzee DNA. **Archaeological evidence:** Tools and ancient remains provide information about human life.

### 3. Stages of Human Evolution

Scientists divide human evolution into different stages based on fossil evidence.

#### A. Australopithecus

Australopithecus was one of the earliest human ancestors. Lived in Africa. Walked on two legs. Had a small brain compared to modern humans.

#### B. Homo habilis

Homo habilis means “handy man.” Used simple stone tools. Had a larger brain than Australopithecus. Lived about 2 million years ago.

#### C. Homo erectus

Homo erectus means “upright man.” Walked fully upright. Used fire and better tools. Spread from Africa to Asia and Europe.

## D. Homo sapiens

Homo sapiens are modern humans. Have a large brain. Developed language and culture. Use advanced technology.

## 4. Important Features of Human Evolution

During human evolution, several important changes occurred: Increase in brain size. Walking upright on two legs. Development of language. Use of tools and fire. Development of social behavior and culture.

## 5. Importance of Studying Human Evolution

Studying human evolution helps us: Understand the origin of humans. Learn how humans adapted to different environments. Understand similarities between humans and other organisms. Study ancient cultures and lifestyles.

## Summary

Human evolution explains how modern humans developed from ancient ancestors. Fossils, DNA evidence, and archaeological discoveries help scientists study human evolution. Major stages include Australopithecus, Homo habilis, Homo erectus, and Homo sapiens.

## Summary Questions and Answers

### 1. What is human evolution?

Human evolution is the gradual development of modern humans from ancient ancestors.

### 2. What evidence supports human evolution?

Fossils, DNA evidence, comparative anatomy, and archaeological discoveries support human evolution.

### 3. Who were Australopithecus?

Australopithecus were early human ancestors who walked on two legs.

**4. Why is Homo habilis called “handy man”?**

Because Homo habilis used simple stone tools.

**5. What were important achievements of Homo erectus?**

Homo erectus used fire and improved tools.

**6. Who are Homo sapiens?**

Homo sapiens are modern humans.

**7. What changes occurred during human evolution?**

Brain size increased, humans walked upright, and language and culture developed.