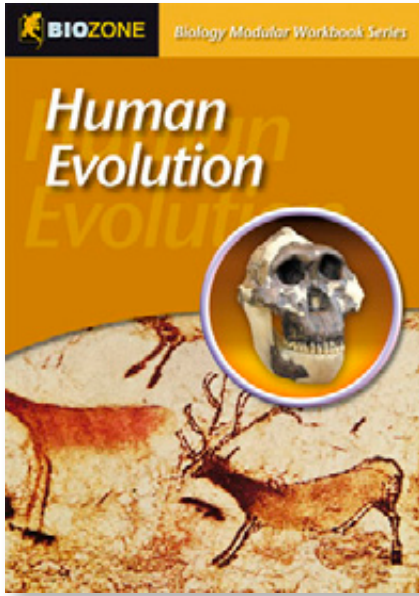


Human Evolution



Human Evolution

A comprehensive treatment of human origins; one of biology's most controversial and rapidly changing topics. With an engaging treatment of primate biology, and full up-to-date coverage of both human physical and cultural evolution, Human Evolution is the perfect supplement for both biology and anthropology students.

Suitability:

- Grades 10-12
- Community College

ISBN: 1-877329-89-4 Pages: 75

Biozone's unique formula encourages self direction, while dovetailing with traditional resources.

Chapters

- The Primates
- Hominin Evolution
- Cultural Evolution

Features

- **Introduction to the topic:**
A concise introduction to the concepts in the activity.
- **Easy to understand diagrams:**
Highly visual, clearly annotated diagrams improve the accessibility of information.
- **Consolidation and branching out:**
Activities provide information to consolidate basic knowledge, while allowing scope for exploring. Differential instruction becomes easier and students at all levels are encouraged to be 'thinkers'.
- **Write-on format:**
Activities provide information to consolidate basic knowledge, while allowing scope for exploring.
- **Tear-out pages:**
Each page has a perforation to allow easy removal for marking, or placement in a ring binder.
- **Activity Code:**
Each activity is coded to identify the skills required for its completion.

Adaptations for Bipedalism

Important modifications in the skeleton are associated with the move to bipedal locomotion in early hominids. The skeleton appears in an average of an early bipedal hominid. It is a reconstruction of a "best" adaptation, showing about 10% of the skeleton in a primate-like form. The skeleton is a reconstruction of the skeleton of a hominid that lived about 1.5 million years ago. The skeleton is a reconstruction of the skeleton of a hominid that lived about 1.5 million years ago.

Gorilla spine **Human spine** **Human legs**

Chimpanzee **Human** **Australopithecine**

1. Referring to the diagrams above, describe whether each of the australopithecine features compares most closely to the chimpanzee or human examples (i.e. to which do they bear the closest resemblance).

(a) Humerus
(b) Femur
(c) Foot skeleton

Code: RA 3

Hominin Evolution

The diagram below shows a preliminary consensus view of the hominid tree. The hominid tree is a reconstruction of the hominid tree. The hominid tree is a reconstruction of the hominid tree. The hominid tree is a reconstruction of the hominid tree.

1. (a) Explain what distinguishes hominids from hominoids.
(b) Explain what distinguishes hominids from hominoids.
(c) Describe the key identifying features of the (generic) australopithecines.
(d) Identify the species that are normally assigned to the genus.
(e) Identify the species considered to be the common ancestor to later australopithecines and also to genus Homo.
(f) State the date range for the hominid.
(g) People also do not understand hominid evolution often appear that "if humans evolved their chimpanzees, then why is it different? Should be continuing to evolve into humans anyway?"
(h) State the date range (approximately) between hominids and chimpanzees and shared a common ancestor.
(i) Describe two sources of evidence by which researchers have determined this date.
(j) Specify the statement (and/or) used to correctly describe the evolutionary relationship between modern chimpanzees and hominids.

Code: RDA 3

Physical Features of Primates

1. Study the features above to identify the distinguishing physical characteristics of each of the major groups of primates. 2. Fill in the record sheet on the following page with reference to these guidelines.

Code: PA 3

Dating a Fossil Site

The diagram below shows a cross-section of a fossil site. The diagram below shows a cross-section of a fossil site. The diagram below shows a cross-section of a fossil site.

Dating method	Dating range (years BP)	Sample materials
Radioactive C-14	1000 - 50,000	Plant, wood, charcoal
Potassium-argon (K-Ar)	10,000 - 100,000	Minerals, rocks, and sands
Thermoluminescence (TL)	100 - 100,000	Minerals, pottery, and sands
Optically Stimulated Luminescence (OSL)	100 - 100,000	Minerals, pottery, and sands
Electron spin resonance (ESR)	100 - 100,000	Minerals, pottery, and sands

1. Discuss the significance of stratigraphic horizons.
2. Determine the approximate date range for the items below (fill in date into accurate space/fields with lowest dated).
(a) The skull at point B
(b) Fossilary level
(c) Disruption horizon A
3. Name the dating methods that could have been used to date each of the following, at the site shown:
(a) Bone (b) Teeth

Code: RDA 2

Human Evolution

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THE PRIMATES

- Prosimians and Tarsiers
- New World and Old World Monkeys
- Apes and Hominins
- Identifying Primates
- General Primate Characteristics
- Primate Skull Features
- Primate Classification
- Physical Features of Primates
- Primate Niches
- Primate Behaviour
- Primate Behaviour Study
- Adaptive Radiation in Primates
- Ancestors of Modern Apes

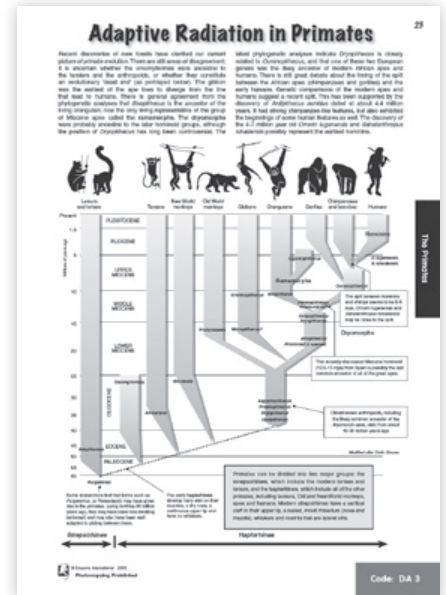
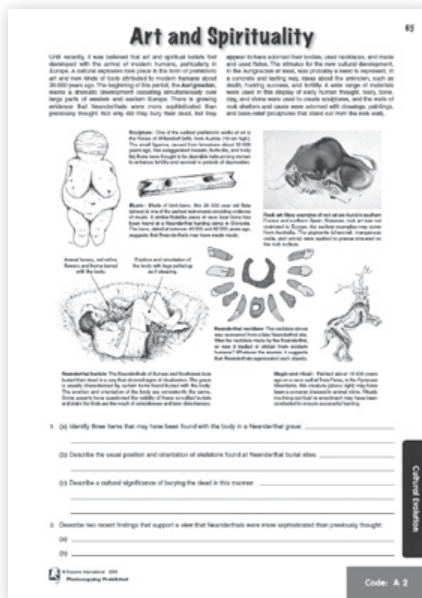
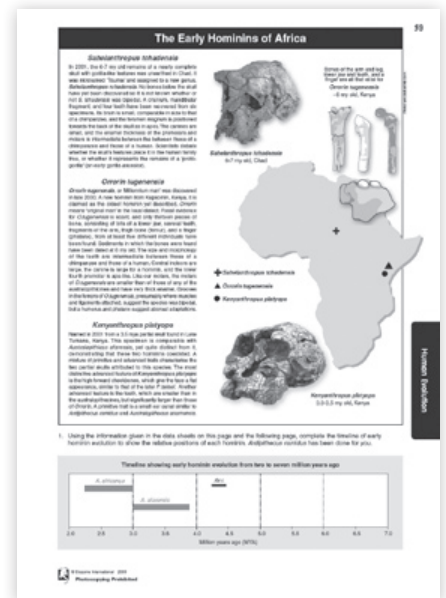
HOMININ EVOLUTION

- Human Characteristics
- Human Skull Anatomy
- Hominin Evolution
- Hominin Skull Identification
- The Emerging View
- Human Evolutionary Models
- Hominin Data Sheets
- The Early Hominins of Africa
- Australopithecus afarensis*
- Australopithecus africanus*
- Paranthropus robustus*
- Paranthropus boisei*
- Homo habilis*
- Homo ergaster*
- Homo erectus*
- Archaic Homo sapiens*
- Homo antecessor*
- Homo floresiensis*
- Homo Neanderthalensis*
- Homo sapiens*

- The Origin of Modern Humans
- Distinguishing Features of Hominins
- Bipedalism and Nakedness
- Adaptations for Bipedalism
- The Development of Intelligence
- Dating Fossils
- Dating a Fossil Site

CULTURAL EVOLUTION

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- Palaeolithic Tool Cultures
- Palaeolithic Tool Use
- Social Development
- Art and Spirituality
- Mesolithic and Neolithic Cultures
- Bronze Age Culture
- Recent Cultural Evolution
- Present and Future Human Evolution
- Trends in Human Evolution

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