NCEA LEVEL 3 BIOLOGY – HUMAN EVOLUTION (AS91606) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

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How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

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Questions

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1. What role did climate change play in human evolution?

A. It led to the increase in hominin population
B. It had no significant impact on human evolution
C. It influenced resource availability and habitat shifts
D. It caused a decrease in human adaptability

2. Which features define the genus Homo?

A. Larger brain size and reduced facial prognathism
B. Shorter limbs and specialized teeth for grinding
C. Ability to fly and swim effectively
D. Development of bright colors in appearance

3. What do the Laetoli footprints indicate about early hominins?

A. They were primarily arboreal
B. They were the first tool users
C. They had begun to walk upright
D. They were larger than modern humans

4. What does genetic analysis reveal about human evolution?

A. Physical evidence of extinct species
B. Insights into lineage and evolutionary relationships
C. Details about ancient rituals
D. Patterns of agricultural development

5. Which Hominin is known for its use of advanced tools and living in social communities?

A. Homo sapiens
B. Homo neanderthalensis
C. Homo habilis
D. Australopithecus afarensis

6. What significant feature is associated with Homo erectus?

A. First species to have opposable thumbs
B. Evidence of migratory patterns out of Africa
C. Lack of tool use
D. Development of agriculture

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7. What type of evolution involves traits that are taught or learned rather than passed on through DNA?

A. Cultural evolution

B. Biological evolution

C. Genetic adaptation

D. Epigenetic changes

8. Which term describes the earliest stone tool technology created by hominins?

A. Upper Palaeolithic

B. Lower Palaeolithic

C. Mesolithic

D. Neolithic

9. How does mitochondrial DNA aid in tracing human ancestry?

A. It is inherited from both parents

B. It reflects maternal lineage and migration patterns

C. It is identical in all humans

D. It can be used to trace paternal lineage

10. What is the name of the gap that allows large jaw muscles to pass through?

A. Palatine fissure

B. Maxillary arch

C. Zygomatic arch

D. Cranial vault

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Answers

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1. C
2. A
3. C
4. B
5. A
6. B
7. A
8. B
9. B
10. C

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Explanations

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1. What role did climate change play in human evolution?

A. It led to the increase in hominin population

B. It had no significant impact on human evolution

C. It influenced resource availability and habitat shifts

D. It caused a decrease in human adaptability

The option stating that climate change influenced resource availability and habitat shifts is correct as it captures a crucial aspect of human evolution. Throughout history, climate fluctuations have dramatically altered ecosystems, leading to changes in the distribution and abundance of resources such as food and water. As climates shifted, early hominins were compelled to adapt to new environments, which often involved changes in their diet, foraging strategies, and social behaviors. Such adaptations were vital for survival and eventually played a significant role in the development of traits associated with modern humans, including increased cognitive abilities, social complexity, and technological innovations. For instance, fluctuations between wet and dry periods could lead to the development of new tools and social structures to exploit varying resources, which were critical for the survival of early human populations. By contrast, other options downplay the positive relationship between climate change and evolutionary adaptation or misconstrue its influence as neutral or negative. Understanding this dynamic illustrates how species, including humans, have continually adapted to changing conditions, making climate change a central factor in our evolutionary history.

2. Which features define the genus Homo?

A. Larger brain size and reduced facial prognathism

B. Shorter limbs and specialized teeth for grinding

C. Ability to fly and swim effectively

D. Development of bright colors in appearance

The genus Homo is characterized by specific anatomical and cognitive features that distinguish it from other genera within the family Hominidae. Larger brain size is a significant indicator of increased cognitive abilities and enhanced problem-solving skills that are thought to have contributed to the development of complex tools and social structures in early human species. Additionally, reduced facial prognathism refers to the flatter faces and smaller jaws compared to earlier hominins, which is tied to changes in diet and the development of language and communication. These adaptations are crucial as they reflect evolutionary changes that allowed members of the genus Homo to better adapt to their environments and improve survival strategies. The other options do not accurately represent defining characteristics of the genus Homo. For example, shorter limbs and specialized teeth for grinding pertain more to other groups of primates or hominins, and the abilities to fly and swim effectively, as well as the development of bright colors, are not features associated with the genus Homo. Rather, they suggest traits found in different animal groups or adaptations that do not relate to human evolution.

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3. What do the Laetoli footprints indicate about early hominins?

A. They were primarily arboreal

B. They were the first tool users

C. They had begun to walk upright

D. They were larger than modern humans

The Laetoli footprints provide important evidence about the locomotor behaviors of early hominins, specifically indicating that they had begun to walk upright. These footprints, dating back around 3.6 million years, were discovered in volcanic ash in Tanzania and are attributed to a species of early hominins, likely Australopithecus afarensis. The characteristics of the footprints, such as their size and the shape of the toe and heel imprints, suggest a bipedal gait similar to that of modern humans. This bipedalism is significant as it reflects a key adaptation in human evolution, allowing early hominins to more efficiently navigate their environment, including traveling longer distances and freeing their hands for other activities. In contrast, the idea that these early hominins were primarily arboreal does not align with the evidence of their upright walking patterns shown in the footprints. The notion that they were the first tool users is unsupported by the current evidence linked to the Laetoli footprints, which focus solely on locomotion, not tool-related behavior. Finally, stating that they were larger than modern humans contradicts findings, as early hominins like Australopithecus were generally smaller in stature compared to modern humans. Therefore, the footprints

4. What does genetic analysis reveal about human evolution?

A. Physical evidence of extinct species

B. Insights into lineage and evolutionary relationships

C. Details about ancient rituals

D. Patterns of agricultural development

Genetic analysis provides significant insights into the lineage and evolutionary relationships of humans and our ancestors. By examining DNA sequences from both ancient and modern populations, scientists can trace the genetic variants that have been passed down through generations. This analysis helps to construct a more accurate understanding of how different hominin species are related to one another, illuminating the paths of migration and interbreeding that have shaped modern human genetics. For example, genetic markers can indicate how closely related Neanderthals are to modern humans and can reveal instances of gene flow between these groups. Additionally, such analyses help in reconstructing evolutionary trees, allowing researchers to identify common ancestors and the timeline of divergence between species. This information is vital for understanding not just human evolution, but also the adaptation mechanisms and environmental pressures that have influenced our development over millions of years. Other choices, while related to the study of human history and prehistory, do not directly address the primary insights gained through genetic analysis in the context of evolutionary relationships.

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5. Which Hominin is known for its use of advanced tools and living in social communities?

A. Homo sapiens

B. Homo neanderthalensis

C. Homo habilis

D. Australopithecus afarensis

Homo sapiens, the species to which all modern human beings belong, is recognized for its advanced tool use and the development of complex social structures. This species is characterized by a high degree of cognitive ability, which enables not only the creation of sophisticated tools but also more intricate social interactions and communication. The use of tools by Homo sapiens includes various types of equipment made from different materials, indicating an ability to adapt to different environments and tasks. This adaptability often extended to cooperative behaviors, allowing early humans to engage in collaborative hunting, gathering, and even child-rearing. These social communities supported the sharing of knowledge and resources, promoting survival and cultural development. In contrast, other hominins such as Homo neanderthalensis, while also exhibiting tool use and social behaviors, did so within a different context and may not have demonstrated the same level of complexity found in Homo sapiens. Species like Homo habilis and Australopithecus afarensis exhibit more primitive tool use and social structures, with Australopithecus particularly known for a more solitary lifestyle. Overall, the distinctive traits of Homo sapiens in tool-making and social organization highlight its evolutionary success and adaptability.

6. What significant feature is associated with Homo erectus?

A. First species to have opposable thumbs

B. Evidence of migratory patterns out of Africa

C. Lack of tool use

D. Development of agriculture

Homo erectus is notably associated with evidence of migratory patterns out of Africa, marking a key moment in human evolution. This species is believed to have emerged approximately 1.9 million years ago and was the first hominin to leave Africa, spreading into various regions of Asia and Europe. This migration reflects their adaptability and ability to survive in different environments, which is supported by archaeological findings such as tools and fossils found outside of Africa, illustrating their long-distance movements. The other options do not accurately reflect the characteristics tied to Homo erectus. For instance, opposable thumbs were present in earlier hominins, and some archaic human species possessed tools, which contradicts the claim of a lack of tool use. Agriculture developed much later in human history, well after the time of Homo erectus.

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7. What type of evolution involves traits that are taught or learned rather than passed on through DNA?

A. Cultural evolution

B. Biological evolution

C. Genetic adaptation

D. Epigenetic changes

Cultural evolution refers to the processes through which knowledge, behaviors, customs, and skills are learned and shared within human societies. This type of evolution is not based on genetic inheritance but on the transmission of learned behaviors and practices from one generation to the next. For instance, language, social norms, and technologies are all aspects of cultural evolution that can develop over time as a result of teaching and social interactions, rather than through the genetic material passed down from one generation to the next. In contrast, biological evolution involves changes in genetic traits within populations over generations due to natural selection and genetic drift. Genetic adaptation is specifically concerned with how populations change genetically in response to environmental pressures, while epigenetic changes refer to modifications in gene expression that do not involve alterations to the underlying DNA sequence but can still affect an organism's phenotype. These areas focus on genetic inheritance rather than on the learning and sharing of non-genetic traits, which is central to understanding cultural evolution.

8. Which term describes the earliest stone tool technology created by hominins?

A. Upper Palaeolithic

B. Lower Palaeolithic

C. Mesolithic

D. Neolithic

The term that describes the earliest stone tool technology created by hominins is the Lower Palaeolithic. This period marks the beginning of stone tool use and is categorized by the development and refinement of simple tools, primarily made of stone. The Lower Palaeolithic is significant because it includes the emergence of early hominins, particularly Homo habilis and Homo erectus, who used basic cutting tools for food processing, hunting, and other tasks essential for survival. This era is characterized by tools such as the Oldowan and Acheulean technologies, showcasing the initial steps of human innovation in tool-making. This development laid the groundwork for more advanced techniques and is a crucial aspect of understanding human evolution and cultural development over time. The Lower Palaeolithic set the stage for subsequent periods, such as the Middle and Upper Palaeolithic, where more sophisticated tools emerged.

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9. How does mitochondrial DNA aid in tracing human ancestry?

A. It is inherited from both parents

B. It reflects maternal lineage and migration patterns

C. It is identical in all humans

D. It can be used to trace paternal lineage

Mitochondrial DNA (mtDNA) is a valuable tool for tracing human ancestry primarily because it reflects maternal lineage. This is due to the unique way in which mtDNA is inherited; it is passed down exclusively from mother to offspring. As a result, all individuals inherit their mtDNA from their mothers, allowing researchers to trace maternal genetic lines over generations. Furthermore, this uniparental inheritance pattern means that changes and mutations in mtDNA can serve as markers for familial connections and migration patterns of ancient human populations. By analyzing the similarities and differences in mtDNA sequences among individuals and populations, scientists can reconstruct migration routes and demographic history, painting a picture of how modern humans have spread across the globe. In contrast, mitochondrial DNA is not inherited from both parents, nor is it identical in all humans, as there are variations in mtDNA sequences that can signify different lineages. Additionally, mtDNA does not trace paternal lineage, which is typically analyzed through Y-chromosome DNA. This unique combination of characteristics makes mtDNA especially useful for understanding our maternal ancestry and the migration patterns of our ancestors.

10. What is the name of the gap that allows large jaw muscles to pass through?

A. Palatine fissure

B. Maxillary arch

C. Zygomatic arch

D. Cranial vault

The gap that allows large jaw muscles to pass through is known as the zygomatic arch. This structure is formed by the zygomatic bone and contributions from the temporal bone. It serves as an important attachment point for muscles involved in chewing, specifically the masseter, which is one of the primary muscles responsible for elevating the jaw during mastication. The zygomatic arch not only provides structural support to the face but also allows ample space for these larger muscles to function effectively. This anatomical feature is crucial for the mechanical advantage needed during the powerful movements of the jaw, which are essential for a varied diet. In contrast, the palatine fissure is a space located in the palate of the mouth, the maxillary arch refers to the curved structure of the maxilla that holds teeth, and the cranial vault pertains to the upper part of the skull that encases the brain. These structures do not provide the same functionality related to the passage of jaw muscles as the zygomatic arch does.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

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We wish you the very best on your exam journey. You've got this!

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