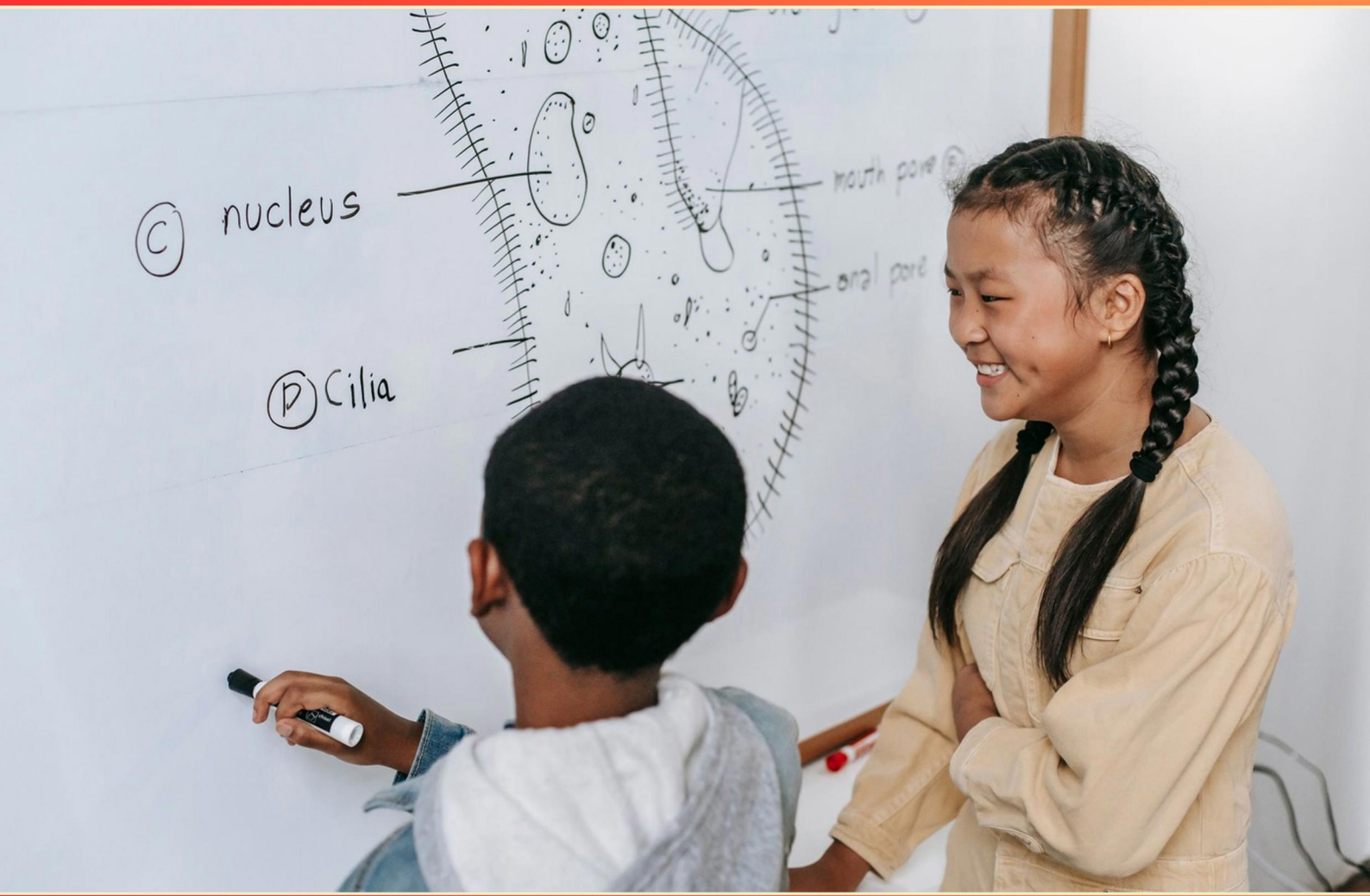
COLLEGE BIOLOGY EXAM 1 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

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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. An egg and a sperm together forms what?

A. Embryo

B. Gamete

C. Ovum

D. Zygote

2. Evolution is the process that allows living things to change over time.

A. Evolution

B. Photosynthesis

C. Migration

D. Reproduction

3. Group of individuals of one species

A. Ecosystem

B. Population

C. Community

D. Organ System

4. Which domain includes multicellular eukaryotes such as plants and animals?

A. Eukarya

B. Bacteria

C. Archaea

D. Protista

5. Which term best describes large biomolecules that perform most functions in cells and are made of amino acids?

A. Proteins

B. Carbohydrates

C. Nucleic acids

D. Lipids

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6. Which elements make up about 90% of the weight of the human body?

A. Oxygen, Hydrogen, Carbon, Nitrogen

B. Oxygen, Nitrogen, Phosphorus, Sulfur

C. Hydrogen, Helium, Neon, Argon

D. Sodium, Potassium, Calcium, Magnesium

7. Which term refers to the fertilized egg?

A. Embryo

B. Ovum

C. Gamete

D. Zygote

8. 5-6 on the pH scale is how much more acidic?

A. 2

B. 10

C. 100

D. 1

9. Atomic number describes the number of protons and defines the element. Which option states this?

A. The Number of Protons and Defines the Element

B. The Number of Protons and Neutrons

C. The Total Electrons

D. The Total Mass

10. What term describes the relationship between the shape of a structure and its function?

A. Structure/ Function

B. Structure/ Form

C. Form/ Function

D. Anatomy/ Physiology

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Answers

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

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Explanations

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1. An egg and a sperm together forms what?

A. Embryo

B. Gamete

C. Ovum

D. Zygote

When a sperm and an egg unite during fertilization, their genetic material comes together to form a zygote. This single cell contains a full set of chromosomes—one set from each parent—making it diploid (46 in humans). The zygote is the first cell of a new individual and will begin dividing by mitosis to become an embryo, then continue developing. The egg itself is called an ovum, and each of the two haploid cells before fertilization is a gamete. An embryo is the later stage that results after the zygote has undergone several rounds of division and differentiation.

2. Evolution is the process that allows living things to change over time.

A. Evolution

B. Photosynthesis

C. Migration

D. Reproduction

Evolution is the process by which populations change over generations as genetic variation is acted upon by forces like natural selection, mutation, gene flow, and genetic drift. This is exactly what allows living things to change over time, shaping traits and leading to new species. The other terms describe specific concepts: photosynthesis is how some organisms convert light into chemical energy; migration is the movement of individuals between populations; reproduction is the act of producing offspring. While these influence how genes spread or are expressed, they do not themselves define the long-term, population-wide change that evolution explains.

3. Group of individuals of one species

A. Ecosystem

B. Population

C. Community

D. Organ System

A population is a group of individuals of the same species living in a defined area and capable of interbreeding, sharing a gene pool. This distinguishes it from other levels: an ecosystem includes all living organisms plus the physical environment; a community is all the populations of different species in that area; and an organ system is a set of organs within a single organism. For example, a herd of deer in a forest is a population, the forest with all plants and animals is an ecosystem, all populations in the forest form the community, and the circulatory system is an organ system inside a deer. So, the group described as "Group of individuals of one species" is a population.

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4. Which domain includes multicellular eukaryotes such as plants and animals?

A. Eukarya

B. Bacteria

C. Archaea

D. Protista

Multicellular plants and animals are composed of eukaryotic cells, which have a true nucleus and membrane-bound organelles. The highest taxonomic level grouping organisms by this cellular organization is the domain, and there are three: Bacteria, Archaea, and Eukarya. Eukarya includes all organisms with eukaryotic cells—plants, animals, fungi, and many protists. Protista, by contrast, is a kingdom within Eukarya, not a separate domain. Bacteria and Archaea are prokaryotes, lacking a nucleus. So, the domain that contains multicellular eukaryotes like plants and animals is Eukarya.

5. Which term best describes large biomolecules that perform most functions in cells and are made of amino acids?

A. Proteins

B. Carbohydrates

C. Nucleic acids

D. Lipids

Proteins are the large biomolecules built from amino acids linked by peptide bonds, and their varied shapes let them perform most jobs in the cell. The sequence of amino acids creates a unique structure that folds into specific three-dimensional forms, which in turn determines function. Enzymes are proteins that speed up chemical reactions, structural proteins provide support and shape, transport proteins move molecules across membranes, signaling proteins relay messages, antibodies defend against invaders, and many other roles hinge on these versatile molecules. Carbohydrates are mainly sugars and starches that provide energy and some structural support. Nucleic acids (DNA and RNA) store and transfer genetic information and guide protein production. Lipids store energy and form membranes but are not built from amino acids. Since the defining feature here is being a polymer of amino acids that carries out a wide range of cellular activities, proteins best fit the description.

6. Which elements make up about 90% of the weight of the human body?

A. Oxygen, Hydrogen, Carbon, Nitrogen

B. Oxygen, Nitrogen, Phosphorus, Sulfur

C. Hydrogen, Helium, Neon, Argon

D. Sodium, Potassium, Calcium, Magnesium

The question tests which elements dominate the mass of the human body. Living matter is mostly water and organic molecules, so a few elements account for the vast majority of weight. Oxygen stands out as the largest contributor because it makes up much of water and of biomolecules; carbon forms the backbone of organic molecules; hydrogen is abundant in water and in organic compounds; and nitrogen is a major component of proteins and nucleic acids. Together, these four elements make up roughly 95–96% of body mass, which aligns with the idea of about 90%. The other elements mentioned are present but in much smaller amounts, while noble gases aren't incorporated in meaningful quantities in the body.

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7. Which term refers to the fertilized egg?

A. Embryo

B. Ovum

C. Gamete

D. Zygote

The fertilized egg is called a zygote. It forms when a sperm cell merges with an egg cell during fertilization, combining their genetic material to restore the organism's diploid chromosome number. From there, the zygote immediately begins rapid cell division (cleavage) and develops into a multicellular embryo. An ovum is the unfertilized egg, and a gamete is any reproductive cell (sperm or egg) that fuses to form a zygote. An embryo is the stage after the zygote has divided and begins differentiation.

8. 5-6 on the pH scale is how much more acidic?

A. 2

B. 10

C. 100

D. 1

Acidity on the pH scale is described by a logarithmic relationship: each unit change in pH reflects a tenfold change in hydrogen ion concentration. Lower pH means more acidic. So shifting from pH 6 to pH 5 increases the hydrogen ion concentration by a factor of ten, making it ten times more acidic. The other numbers would reflect linear changes, which isn't how the pH scale works.

9. Atomic number describes the number of protons and defines the element. Which option states this?

A. The Number of Protons and Defines the Element

B. The Number of Protons and Neutrons

C. The Total Electrons

D. The Total Mass

Atomic number is the count of protons in the nucleus, and it uniquely identifies the element. The description that the atomic number is the number of protons and that this defines the element is the best choice because protons determine which element an atom is; isotopes share the same proton count but differ in neutrons, so their mass changes while their identity does not. The other options mix in neutrons, electrons, or total mass, which are not what defines the element: neutrons vary among isotopes, electrons change with charge, and total mass is protons plus neutrons. So the statement about the number of protons defining the element matches exactly what the atomic number represents.

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10. What term describes the relationship between the shape of a structure and its function?

A. Structure/ Function

B. Structure/ Form

C. Form/ Function

D. Anatomy/ Physiology

In biology, how something is built (its structure) and what it does (its function) are tightly linked, and the phrase that captures this link is structure and function. This option best fits because it directly pairs the physical form with its role, reflecting the idea that an organism's shape is shaped by what it needs to do. The other pairings miss that direct link or invert the emphasis: structure/form focuses on shape without implying function; form/function shifts the emphasis toward function but is less standard when paired with structure; anatomy/physiology points to the disciplines rather than the relationship between form and job.

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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:

https://collegebiology1.examzify.com

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

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