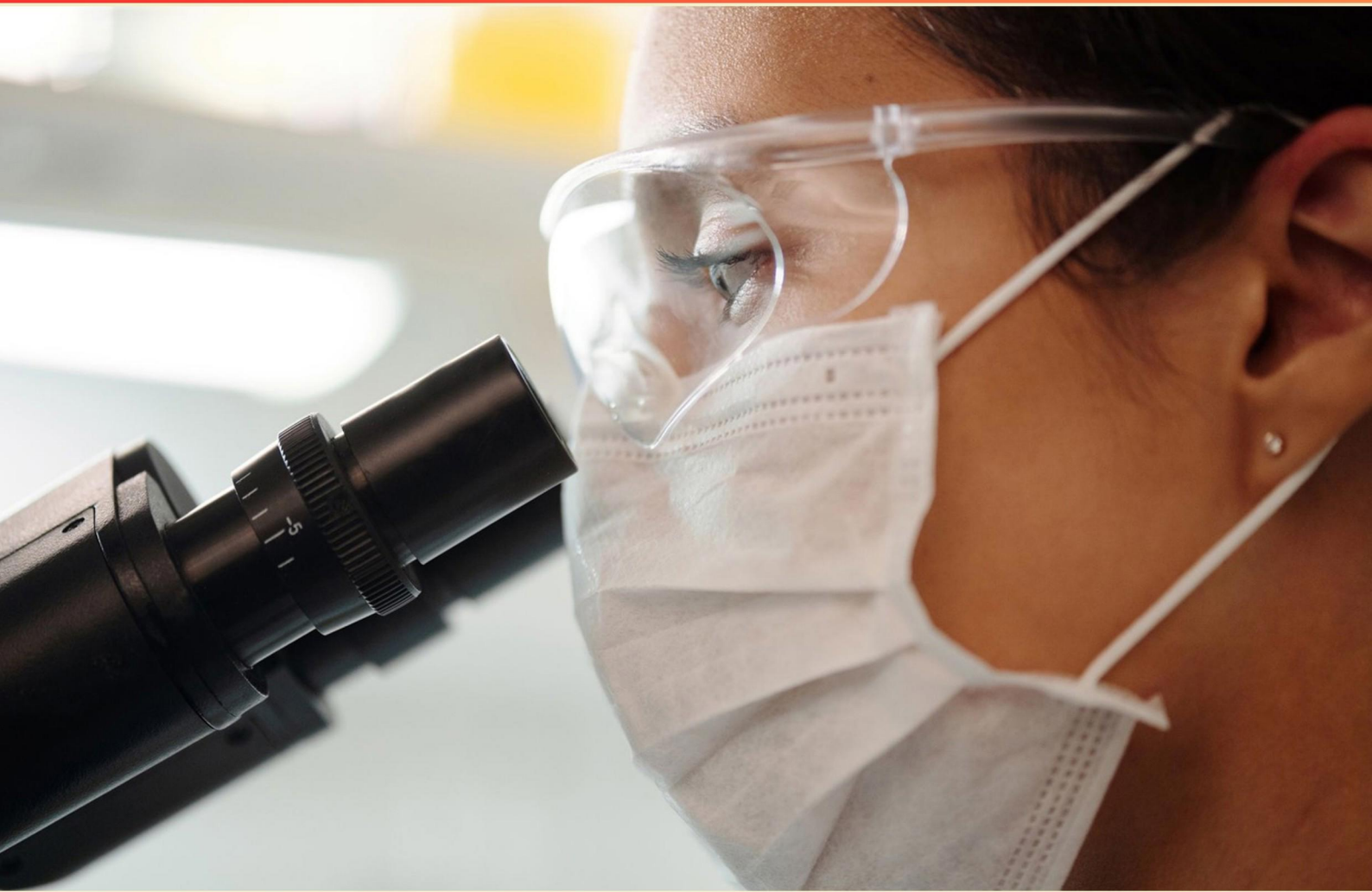


LIFE SCIENCE FINAL PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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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.

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!

Questions

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- 1. Why does the adult human skeleton have fewer bones than an infant's skeleton?**
 - A. Because bones grow larger but not more numerous
 - B. Because bones fuse together during growth
 - C. Because bones disappear
 - D. Because bones become cartilage
- 2. Which body region is the tail-like posterior segment in many arthropods?**
 - A. Head
 - B. Abdomen
 - C. Thorax
 - D. Carapace
- 3. Cetaceans comprise which group?**
 - A. Bats
 - B. Rabbits
 - C. Zebras
 - D. Whales, dolphins, porpoises
- 4. Which term best describes the model that shows energy moving through an ecosystem from producers upward through trophic levels?**
 - A. Producer-consumer diagram
 - B. Energy pyramid
 - C. Food chain
 - D. Ecosystem map
- 5. Which muscle on the back of the upper arm extends the elbow?**
 - A. Biceps
 - B. Triceps
 - C. Deltoids
 - D. Abdominal muscles

- 6. Which bone is the thinner of the two bones in the lower leg?**
- A. Tibia
 - B. Radius
 - C. Fibula
 - D. Ulna
- 7. Which connective tissue connects bone to bone?**
- A. Cartilage
 - B. Ligament
 - C. Nerve
 - D. Tendon
- 8. Which shoulder muscle lifts the arm to the side?**
- A. Biceps
 - B. Triceps
 - C. Deltoids
 - D. Abdominal muscles
- 9. What type of joint allows one bone to slide over another; examples neck and vertebrae?**
- A. Hinge Joint
 - B. Sliding Joint
 - C. Pivot Joint
 - D. Ball-and-Socket Joint
- 10. Which brain region is primarily responsible for balance and muscle coordination?**
- A. Cerebrum
 - B. Brainstem
 - C. Hypothalamus
 - D. Cerebellum

Answers

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

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Explanations

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1. Why does the adult human skeleton have fewer bones than an infant's skeleton?

- A. Because bones grow larger but not more numerous
- B. Because bones fuse together during growth**
- C. Because bones disappear
- D. Because bones become cartilage

The main idea is that the number of bones changes as we grow because some bones fuse together during development. Infants start with about 270 bones, and as growth proceeds, several bones join to form single bones—especially in the skull, where sutures fuse, and in other parts like the pelvis and spine—so the total count decreases to around 206 in an adult. Bones do grow in size, but that growth doesn't explain the reduced number as much as fusion does. They don't disappear, and while cartilage is involved in forming bones (endochondral ossification) and that cartilage remains at joints, bones don't simply turn into cartilage as a normal part of aging.

2. Which body region is the tail-like posterior segment in many arthropods?

- A. Head
- B. Abdomen**
- C. Thorax
- D. Carapace

Arthropods have their bodies organized into distinct regions, with a rear portion that often appears tail-like called the abdomen. This abdomen is the posterior tagma that contains much of the digestive and reproductive systems and can be long and segmented, giving that tail-like look in many species. The front region is the head, which houses sensory and feeding organs; the middle region is the thorax, which typically bears legs (and wings in many insects); the carapace is a protective shield on the front body in some crustaceans, not a posterior region. Therefore, the tail-like posterior segment corresponds to the abdomen.

3. Cetaceans comprise which group?

- A. Bats
- B. Rabbits
- C. Zebras
- D. Whales, dolphins, porpoises**

Cetaceans are a group of mammals uniquely adapted to life in the sea. They breathe air through lungs, give birth to live young, and nurse their offspring, just like other mammals, but they have evolved body shapes, flippers, and tail flukes that make them expert swimmers. They are warm-blooded and insulated by blubber, and they include two main lineages: baleen whales and toothed whales, the latter of which encompasses dolphins and porpoises. Because whales, dolphins, and porpoises form this marine mammal group, they are the correct match. Bats are flying mammals, rabbits are small herbivorous mammals, and zebras are land-dwelling hoofed mammals, not aquatic mammals like cetaceans.

4. Which term best describes the model that shows energy moving through an ecosystem from producers upward through trophic levels?

- A. Producer-consumer diagram
- B. Energy pyramid**
- C. Food chain
- D. Ecosystem map

Understanding how energy moves through an ecosystem and how we visualize that flow is key. Producers capture solar energy and pass it to organisms higher up the food chain, but only a fraction of that energy moves to each new trophic level because much is lost as heat and through metabolic processes. An energy pyramid is the best way to represent this because it shows the amount of usable energy at each trophic level and why energy diminishes as you move upward, leading to fewer top-level consumers. Other terms don't capture this quantitative aspect as clearly. A food chain shows a single linear path of energy transfer, which oversimplifies real ecosystems with many overlapping relationships. A food web maps who eats whom in a network but doesn't inherently emphasize the changing amounts of energy at each level. A producer-consumer diagram or an ecosystem map isn't a standard representation focused on energy transfer between trophic levels.

5. Which muscle on the back of the upper arm extends the elbow?

- A. Biceps
- B. Triceps**
- C. Deltoids
- D. Abdominal muscles

Elbow extension is carried out by the triceps brachii, a muscle that runs along the back of the upper arm. When it contracts, it straightens the elbow by pulling on the forearm, increasing the angle between the upper arm and forearm. The biceps brachii sits on the front of the arm and flexes the elbow, not extends it. The deltoids are shoulder muscles involved in lifting and rotating the arm at the shoulder, while the abdominal muscles belong to the core and don't move the elbow. So the back-of-the-arm muscle that extends the elbow is the triceps.

6. Which bone is the thinner of the two bones in the lower leg?

- A. Tibia
- B. Radius
- C. Fibula**
- D. Ulna

In the lower leg, the two bones are the tibia and the fibula. The thinner one is the fibula, which sits on the outside of the leg. It's slender because its main role is to provide ankle stability and serve as an attachment point for muscles, not to bear the body's weight. The tibia, by contrast, is thicker and acts as the primary weight-bearing bone. The other options are arm bones (radius and ulna) and aren't part of the lower leg.

7. Which connective tissue connects bone to bone?

- A. Cartilage
- B. Ligament**
- C. Nerve
- D. Tendon

Ligaments connect bone to bone. They are bands of dense regular connective tissue that stabilize joints by binding the bones together and limiting excessive movement, while still allowing for normal motion. Cartilage cushions and lines joint surfaces but doesn't bind bones together; tendons attach muscles to bones to enable movement; nerves are not connective tissue that links bones.

8. Which shoulder muscle lifts the arm to the side?

- A. Biceps
- B. Triceps
- C. Deltoids**
- D. Abdominal muscles

Lifting the arm away from the body at the shoulder—arm abduction—is carried out mainly by the deltoid muscle, especially its middle fibers. When the deltoid contracts, it raises the arm laterally, moving it to the side. The initial portion of this lift (up to about 15 degrees) is actually helped by the supraspinatus, a rotator cuff muscle, but the deltoid provides the bulk of the lateral elevation as the arm rises. The biceps brachii and triceps brachii are involved in elbow movements (and some other shoulder actions), not in lifting the arm sideways. Abdominal muscles are core trunk muscles and don't abduct the shoulder.

9. What type of joint allows one bone to slide over another; examples neck and vertebrae?

- A. Hinge Joint
- B. Sliding Joint**
- C. Pivot Joint
- D. Ball-and-Socket Joint

Movement where one bone slides over another is characteristic of sliding (plane) joints. These joints have flat articular surfaces that come into contact and allow small, gliding movements with little or no angular change. In the neck and along the vertebral column, the facet (zygapophyseal) joints between neighboring vertebrae are plane joints, enabling the vertebrae to glide past each other as the neck bends and twists. Hinge joints restrict movement to one plane of flexion and extension, pivot joints allow rotation around a single axis, and ball-and-socket joints permit movement in many directions including rotation. Therefore, the sliding joint best fits the described motion.

10. Which brain region is primarily responsible for balance and muscle coordination?

- A. Cerebrum
- B. Brainstem
- C. Hypothalamus
- D. Cerebellum**

Balance and smooth, coordinated movement come from the cerebellum. It sits at the back of the brain and constantly integrates input about body position from proprioceptors in muscles and joints, as well as from the vestibular system in the inner ear, plus movement plans from the cerebral cortex. By comparing intended movements with actual ones, the cerebellum sends corrective signals to motor pathways to fine-tune posture, timing, and coordination. When the cerebellum is affected, people often develop unsteady gait, intention tremor, and problems with precise movements. The cerebrum handles planning and initiating movement and processing sensory information, the brainstem maintains basic life functions, and the hypothalamus regulates autonomic and hormonal processes.

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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://lifesciencefinal.examzify.com>

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

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