

HISET SCIENCE PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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. In physics, what term refers to the capacity of a physical system to do work?**
 - A. Power
 - B. Work
 - C. Energy
 - D. Force
- 2. Which organelle carries substances like proteins to various parts of the cell?**
 - A. Golgi Apparatus
 - B. Endoplasmic Reticulum
 - C. Mitochondria
 - D. Chloroplast
- 3. Which of the following is defined as a marine coelenterate with a soft, gelatinous structure?**
 - A. Starfish
 - B. Jellyfish
 - C. Coral
 - D. Seaweed
- 4. Which type of consumer primarily feeds on carnivores?**
 - A. Primary Consumers
 - B. Secondary Consumers
 - C. Tertiary Consumers
 - D. Herbivores
- 5. Which artery is known to be the largest in the body?**
 - A. Pulmonary Artery
 - B. Coronary Artery
 - C. Femoral Artery
 - D. Aorta

6. Which characteristic defines exoskeletons?

- A. They are found inside the body
- B. They provide muscle attachment
- C. They are flexible and soft
- D. They are hard, protective structures outside the body

7. What function is the diaphragm primarily associated with?

- A. Digestion
- B. Breathing
- C. Circulation
- D. Excretion

8. A cell that contains only one set of chromosomes is called what?

- A. Diploid Cell
- B. Haploid Cell
- C. Somatic Cell
- D. Spermatocyte

9. What type of muscle can be classified as involuntary?

- A. Skeletal muscle
- B. Smooth muscle
- C. Cardiac muscle
- D. Both Smooth and Cardiac muscle

10. What is the classification rank that lies below Kingdom and above Phylum?

- A. Class
- B. Family
- C. Order
- D. Genus

Answers

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

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Explanations

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1. In physics, what term refers to the capacity of a physical system to do work?

- A. Power
- B. Work
- C. Energy**
- D. Force

The term that refers to the capacity of a physical system to do work is energy. In physics, energy is defined as the ability to perform work, which encompasses a variety of forms, including kinetic energy, potential energy, thermal energy, and many others. When a system has energy, it can transfer that energy to another system or perform a task, such as moving an object against a force or creating heat. Power, on the other hand, measures the rate at which work is done or energy is transferred over time, but it is not a measure of capacity itself. Work is defined as the process of energy transfer that occurs when an object is moved over a distance by an external force, but it does not denote the system's capacity to do so. Force is an interaction that causes an object to accelerate, but it does not encompass the broader concept of a system's ability to do work, which is fundamentally described by energy. Thus, energy succinctly captures this capacity and its importance in various physical processes.

2. Which organelle carries substances like proteins to various parts of the cell?

- A. Golgi Apparatus
- B. Endoplasmic Reticulum**
- C. Mitochondria
- D. Chloroplast

The Endoplasmic Reticulum (ER) is the correct answer because it serves as the primary site for the synthesis and transport of proteins and lipids within the cell. It is a network of membranes that can be classified into two types: rough ER, which is studded with ribosomes and primarily responsible for the synthesis of proteins that will be secreted or incorporated into membranes, and smooth ER, which synthesizes lipids and detoxifies certain chemicals. The Golgi Apparatus also plays a critical role in processing and packaging proteins for transport but is more focused on modifying, sorting, and delivering proteins that have already been synthesized in the ER. Mitochondria are involved in energy production, while chloroplasts perform photosynthesis in plant cells. Thus, while the Golgi Apparatus is important for processing, the ER is the organelle responsible for the initial transportation of proteins within the cell.

3. Which of the following is defined as a marine coelenterate with a soft, gelatinous structure?

- A. Starfish
- B. Jellyfish**
- C. Coral
- D. Seaweed

The term "marine coelenterate" refers to organisms belonging to the phylum Cnidaria, which includes jellyfish, corals, and sea anemones. Jellyfish are characterized by their soft, gelatinous bodies, which primarily consist of a substance called mesoglea. This structure allows them to drift with ocean currents and gives them their characteristic bell shape. They possess tentacles equipped with specialized cells called nematocysts, which are used for capturing prey and defense. In contrast, starfish, corals, and seaweeds have different structural features. Starfish (or sea stars) belong to the phylum Echinodermata and have a hard, calcified body covered with skin. Coral, while also a coelenterate, has a hard exoskeleton and is more rigid than a jellyfish. Seaweed, on the other hand, is a type of algae and does not belong to the phylum Cnidaria; its structure is entirely different as it is composed of plant-like tissues that can be more fibrous or leafy in appearance. Thus, the defining characteristics of jellyfish make it the correct answer in identifying a marine coelenterate with a soft, gelatinous structure.

4. Which type of consumer primarily feeds on carnivores?

- A. Primary Consumers
- B. Secondary Consumers
- C. Tertiary Consumers**
- D. Herbivores

The classification of consumers is based on their position within the food chain and their feeding relationships with other organisms. Tertiary consumers are typically at the top of the food chain and primarily feed on secondary consumers, who are often carnivores themselves. This means that tertiary consumers rely on a diet that consists mainly of other animals that have already consumed herbivores (primary consumers) or smaller carnivores. In an ecosystem, tertiary consumers can include apex predators like lions, hawks, or sharks, which hunt and eat other carnivores, thereby playing a crucial role in maintaining the balance of the ecosystem by controlling the populations of those prey species. This distinguishes them from primary consumers, which eat plants, and secondary consumers, which primarily prey on herbivores. Thus, the correct answer accurately identifies the role of tertiary consumers in the food web.

5. Which artery is known to be the largest in the body?

- A. Pulmonary Artery
- B. Coronary Artery
- C. Femoral Artery
- D. Aorta**

The aorta is recognized as the largest artery in the body due to its crucial role in the circulatory system. It is the main artery that carries oxygenated blood away from the heart to distribute it throughout the body. The aorta originates from the left ventricle of the heart and is capable of withstanding high pressures generated by the heart's contractions, allowing it to effectively deliver blood to various regions including the head, arms, abdomen, and legs. In addition to its size, the aorta's structure is also significant; it is designed with thick, elastic walls that help maintain blood pressure during systole (the phase of the heartbeat when the heart contracts) and assist in propelling blood forward. The aorta branches into smaller arteries, which further distribute blood to numerous body parts, emphasizing its importance as the primary conduit of blood flow in the human body.

6. Which characteristic defines exoskeletons?

- A. They are found inside the body
- B. They provide muscle attachment
- C. They are flexible and soft
- D. They are hard, protective structures outside the body**

Exoskeletons are indeed defined by their nature as hard, protective structures located on the outside of an organism's body. This distinction is crucial because exoskeletons serve multiple important functions for the organisms that possess them, such as providing a sturdy shield against environmental hazards, predators, and physical damage. In addition to protection, exoskeletons also play a role in facilitating movement. They provide a surface for muscle attachment, enabling the muscles to pull against the exoskeleton to create movement. This combination of protective and structural benefits is a key characteristic of exoskeletons found in many arthropods, such as insects and crustaceans. The other options reference characteristics that do not align with the defining features of exoskeletons. For example, internal structures are indicative of an endoskeleton, while flexibility and softness typically describe different biological structures, such as skin or membranes rather than exoskeletal materials, which are generally rigid and strong.

7. What function is the diaphragm primarily associated with?

- A. Digestion
- B. Breathing**
- C. Circulation
- D. Excretion

The diaphragm is primarily associated with breathing because it is a vital muscle that plays a key role in the respiratory system. Located beneath the lungs, the diaphragm separates the thoracic cavity from the abdominal cavity. When the diaphragm contracts, it flattens and moves downward, increasing the volume of the thoracic cavity. This creates a drop in internal air pressure, allowing air to be drawn into the lungs. During exhalation, the diaphragm relaxes, causing the thoracic cavity to decrease in volume and push air out of the lungs. This function is essential for gas exchange, as it facilitates the intake of oxygen and the expulsion of carbon dioxide, vital processes for maintaining proper bodily function and homeostasis. In contrast, the other processes listed—digestion, circulation, and excretion—are performed by different systems in the body that do not primarily involve the diaphragm.

8. A cell that contains only one set of chromosomes is called what?

- A. Diploid Cell
- B. Haploid Cell**
- C. Somatic Cell
- D. Spermatocyte

A cell that contains only one set of chromosomes is referred to as a haploid cell. In humans and many other organisms, the haploid condition is typically represented by gametes, such as sperm and egg cells. These cells are crucial for sexual reproduction because they combine during fertilization to form a diploid zygote, restoring the paired sets of chromosomes. To elaborate, haploid cells have half the number of chromosomes compared to diploid cells, which have two sets. This reduction is essential for maintaining the stable number of chromosomes in a species across generations. When organisms reproduce sexually, the haploid cells play a key role in ensuring genetic diversity as they combine genetic material from two parents. Diploid cells, in contrast, are those that contain two sets of chromosomes and are commonly found in somatic cells, which make up the majority of an organism's body. Somatic cells are not involved in reproduction. A spermatocyte is a specific type of diploid cell that undergoes meiosis to produce haploid sperm cells, but it is still considered diploid before this process.

9. What type of muscle can be classified as involuntary?

- A. Skeletal muscle
- B. Smooth muscle
- C. Cardiac muscle
- D. Both Smooth and Cardiac muscle**

Involuntary muscle refers to muscle that operates without conscious control. Smooth muscle is found in the walls of hollow organs such as the intestines and blood vessels, and it performs functions like moving food through the digestive tract and regulating blood flow. Cardiac muscle, found only in the heart, is also involuntary and responsible for pumping blood throughout the body. Both types of muscle are controlled by the autonomic nervous system, which regulates bodily functions that occur without conscious effort. This means that both smooth and cardiac muscles function automatically to respond to physiological signals. Skeletal muscle, on the other hand, is under voluntary control and is involved in movements that we consciously regulate, such as walking or picking up objects. This distinction is crucial in understanding how different types of muscle tissue operate within the body. Thus, the correct answer encompasses both smooth and cardiac muscle as involuntary types, reflecting their automatic functioning.

10. What is the classification rank that lies below Kingdom and above Phylum?

- A. Class**
- B. Family
- C. Order
- D. Genus

The classification rank that lies below Kingdom and above Phylum is Class. This hierarchy is part of the biological classification system, also known as taxonomy, which is used to organize all living organisms into categories based on shared characteristics and evolutionary relationships. In this system, the major ranks from broadest to most specific are Kingdom, Phylum, Class, Order, Family, Genus, and Species. Therefore, Class is positioned directly between Kingdom and Phylum, serving as a way to group organisms that share important features and traits, but are more specific than the kingdom level. For example, in the animal kingdom, the class Mammalia includes all mammals, which are distinguished from other phyla based on characteristics such as having hair or fur and the ability to produce milk. The Class serves to further classify the diverse organisms within the broad category of a Kingdom, leading to more detailed and specific categories as you continue down the hierarchy.

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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