JLAB Academic Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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 **16**

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

1. How would a gas behave in a closed container?

A. It maintains a fixed volume

B. It takes the shape of the container

C. It has a distinct shape

D. It cannot change under pressure

2. If a triangle has a base of 10 cm and height of 6 cm, what is its area?

A. 60 cm²

B. 30 cm²

C. 20 cm²

D. 15 cm²

3. Which statement best describes the scientific method?

A. A systematic approach to research that includes observation, hypothesis formulation, experimentation, analysis, and conclusion

B. A casual approach to conducting experiments and collecting data

C. A way to develop theories without experimentation

D. An informal method of inquiry based on assumptions

4. What is the main role of the circulatory system?

A. To detoxify harmful substances in the body

B. To transport nutrients, gases, hormones, and waste products throughout the body

C. To provide structure and support to the body

D. To regulate the body's immune response

5. When the price of a video game increases from $50 to $65, what is the percent increase?

A. 25% increase

B. 30% increase

C. 35% increase

D. 20% increase

6. Which of the following describes a property of a solid?

- **A. Particles move freely**
- **B. Particles are tightly packed and vibrate in place**
- **C. Particles have no arrangement**
- **D. Particles fill the entire container**

7. What does the root 'dic' imply in a word?

- **A. To lead**
- **B. To bend**
- **C. To throw**
- **D. To say or speak**

8. What is defined as the temperature at which a substance changes from a liquid to a solid?

- **A. Melting point**
- **B. Boiling point**
- **C. Freezing point**
- **D. Sublimation point**

9. What is the term for each column in the periodic table?

- **A. Period**
- **B. Group or family**
- **C. Series**
- **D. Category**

10. What does the respiratory system primarily do?

- **A. Circulates blood through the body**
- **B. Brings air into the body**
- **C. Maintains immunity**
- **D. Provides structural support**

Answers

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

Explanations

1. How would a gas behave in a closed container?

A. It maintains a fixed volume

B. It takes the shape of the container

C. It has a distinct shape

D. It cannot change under pressure

In a closed container, a gas behaves in such a way that it takes the shape of the container. This occurs because gas particles are in constant, rapid motion and have a significant amount of space between them, resulting in the ability to move freely and spread out to fill the entire volume available. Unlike solids and liquids, gases do not have a definitive shape; instead, they conform to the shape of their surroundings. This characteristic distinguishes gases from other states of matter. For example, while a solid maintains a fixed shape and volume, and a liquid has a fixed volume but takes the shape of its container, gases fully occupy any container they are placed in, regardless of the container's shape. This property can be observed in everyday situations, such as when you inflate a balloon; the air inside the balloon presses against the walls and takes on the shape of the balloon. Choices emphasizing fixed volume or distinct shape do not apply to gases in this scenario, as they fundamentally lack these characteristics. Furthermore, the assertion that a gas cannot change under pressure is misleading; gases can be compressed and will usually change volume significantly in response to increasing pressure. This highlights the unique and versatile behavior of gases within closed environments.

2. If a triangle has a base of 10 cm and height of 6 cm, what is its area?

A. 60 cm²

B. 30 cm²

C. 20 cm²

D. 15 cm²

To find the area of a triangle, you can use the formula: $$\text{Area} = \frac{1}{2} \times \text{base} \times \text{height}$$ In this case, the base of the triangle is 10 cm and the height is 6 cm. Plugging these values into the formula: $$\text{Area} = \frac{1}{2} \times 10 \, \text{cm} \times 6 \, \text{cm}$$ $$\text{Area} = \frac{1}{2} \times 60 \, \text{cm}^2 = 30 \, \text{cm}^2$$ Thus, the area of the triangle is indeed 30 cm². This calculation confirms that the correct answer is B, as it correctly applies the area formula, and the values for base and height are accurately multiplied and halved to arrive at the correct area measurement.

3. Which statement best describes the scientific method?

A. A systematic approach to research that includes observation, hypothesis formulation, experimentation, analysis, and conclusion

B. A casual approach to conducting experiments and collecting data

C. A way to develop theories without experimentation

D. An informal method of inquiry based on assumptions

The scientific method is best described as a systematic approach to research that includes observation, hypothesis formulation, experimentation, analysis, and conclusion. This structured process allows scientists to investigate questions, test predictions, and gather empirical evidence in a way that minimizes bias and maximizes reproducibility. Starting with careful observation, researchers identify questions that arise from their surroundings or existing knowledge. They then formulate a hypothesis, which is a testable prediction about the outcome of their investigation. Experimentation is a critical step where variables are manipulated and controlled to gather data. After conducting experiments, researchers analyze the results to draw conclusions, which may either support or refute the original hypothesis. This cycle can lead to further experimentation and refinement of theories as new data emerges. The other choices provided lack the rigor and structure inherent to the scientific method. A casual approach, for example, emphasizes a lack of systematic investigation and may not yield reliable results. Similarly, developing theories without experimentation overlooks the necessity of empirical evidence to support scientific claims. Finally, an informal method of inquiry based on assumptions does not incorporate the fundamental elements of hypothesis testing and evidence-based conclusions that define the scientific method.

4. What is the main role of the circulatory system?

A. To detoxify harmful substances in the body

B. To transport nutrients, gases, hormones, and waste products throughout the body

C. To provide structure and support to the body

D. To regulate the body's immune response

The primary function of the circulatory system is to transport essential substances throughout the body, including nutrients, gases like oxygen and carbon dioxide, hormones, and waste products. This system comprises the heart, blood vessels, and blood, which work together to maintain homeostasis by ensuring that all cells receive the necessary elements for energy production and cellular function while also facilitating the removal of metabolic wastes. Nutrients absorbed from the digestive system are delivered to cells via the bloodstream, while oxygen from the lungs is transported to tissues, and carbon dioxide, a waste product of cellular metabolism, is carried back to the lungs for exhalation. Hormones produced by various glands are also distributed through the circulatory system, playing key roles in regulating bodily functions and responses. The efficiency of this transport system is crucial for sustaining life, as it helps meet the metabolic needs of tissues and organs, thus playing a fundamental role in maintaining overall health.

5. When the price of a video game increases from $50 to $65, what is the percent increase?

A. 25% increase

B. 30% increase

C. 35% increase

D. 20% increase

To calculate the percent increase of the video game's price from $50 to $65, you first need to determine the amount of the increase. This is done by subtracting the original price from the new price: 65 - 50 = 15. Next, you take this increase and divide it by the original price: 15 ÷ 50 = 0.30. To convert this decimal into a percentage, you multiply it by 100: 0.30 × 100 = 30%. Thus, the percent increase in the price of the video game is 30%. This means that the price increased by 30% from its original value of $50 to reach $65.

6. Which of the following describes a property of a solid?

A. Particles move freely

B. Particles are tightly packed and vibrate in place

C. Particles have no arrangement

D. Particles fill the entire container

A property of a solid is that its particles are tightly packed and vibrate in place. This characteristic is key to understanding the structural integrity and form of solids. Unlike liquids and gases, where particles can move freely or are spread out to fill a container, the particles in a solid are closely arranged in a fixed structure. This close packing contributes to the solidity and rigidity of the material, making it retain a definite shape and volume. The vibration of the particles in place is a manifestation of the thermal energy present in the solid; they do not have enough energy to break free from their fixed positions but can still move slightly due to thermal motion. This type of arrangement accounts for many properties of solids, such as their inability to flow and their resistance to compression.

7. What does the root 'dic' imply in a word?

A. To lead

B. To bend

C. To throw

D. To say or speak

The root 'dic' originates from Latin, specifically from the word "dicere," which means "to say" or "to speak." This root is commonly found in various English words that relate to speech or declaration, such as "dictate," "predict," and "indicate." In these cases, the presence of 'dic' highlights an action related to verbal expression or communication. Understanding this root can enhance comprehension of numerous vocabulary terms that involve stating or expressing something, making it an essential component for anyone looking to expand their language skills.

8. What is defined as the temperature at which a substance changes from a liquid to a solid?

A. Melting point

B. Boiling point

C. Freezing point

D. Sublimation point

The freezing point of a substance is defined as the temperature at which it transitions from a liquid state to a solid state. At this specific temperature, the kinetic energy of the molecules decreases, allowing them to arrange into a fixed structure, thus forming a solid. This process is essential for understanding various physical changes in substances and is a fundamental concept in thermodynamics. In contrast, the melting point refers to the temperature at which a solid changes into a liquid, the boiling point is the temperature at which a liquid turns into a gas, and the sublimation point is the temperature at which a solid changes directly to a gas without becoming a liquid first. These definitions highlight different phase changes, with the freezing point specifically addressing the solidification process.

9. What is the term for each column in the periodic table?

A. Period

B. Group or family

C. Series

D. Category

Each column in the periodic table is referred to as a "group" or "family." This designation highlights the fact that elements within the same group often share similar chemical properties and exhibit similar behavior due to their equivalent number of valence electrons. For example, the elements in Group 1 (the alkali metals) are highly reactive and have one electron in their outermost shell, which is a characteristic feature that defines their reactivity. Grouping elements this way allows for easier understanding of their relationships and trends within the table, making it a fundamental aspect of chemistry. In contrast, the other terms listed do not accurately describe columns in the periodic table; "period" refers to the rows of the table, while "series" and "category" are not standard terminology used to describe the columns.

10. What does the respiratory system primarily do?

A. Circulates blood through the body

B. Brings air into the body

C. Maintains immunity

D. Provides structural support

The primary function of the respiratory system is to bring air into the body, a process critical for obtaining oxygen and expelling carbon dioxide. This system includes structures such as the nose, trachea, lungs, and diaphragm, which work together to facilitate the exchange of gases. When we inhale, air travels through these structures and reaches the lungs, where oxygen is absorbed into the bloodstream, providing the necessary oxygen for cellular respiration. At the same time, carbon dioxide, a waste product of metabolism, is transferred from the blood to the lungs to be exhaled. While other systems, like the circulatory system, manage blood flow, the primary role of the respiratory system is focused on gas exchange. This makes it essential not only for breathing but also for maintaining the body's overall metabolic needs. The other options, while they represent important functions of other bodily systems, do not capture the core purpose of the respiratory system itself.

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://jlabacademic.examzify.com

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