

PSIA SCIENCE PRACTICE TEST (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.

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. What is defined as a change in velocity (speed or direction) over a period of time?**
 - A. Velocity
 - B. Force
 - C. Acceleration
 - D. Momentum

- 2. What term describes the breeding process that selects for desired traits while eliminating undesired ones?**
 - A. Natural selection
 - B. Artificial selection
 - C. Genetic drift
 - D. Gene expression

- 3. What type of electric current flows in one direction?**
 - A. Alternating current
 - B. Direct current
 - C. Pulsed current
 - D. Static current

- 4. What device is used to detect and measure electric charge?**
 - A. Voltmeter
 - B. Electroscope
 - C. Ammeter
 - D. Ohmmeter

- 5. Which term describes the Greek-derived name for the supergiant star located in the constellation of Scorpius, rival of Mars?**
 - A. Aquila
 - B. Antares
 - C. Betelgeuse
 - D. Deneb

- 6. What is the primary benefit of binocular vision?**
- A. Increased color perception
 - B. Better night vision
 - C. Enhanced depth perception
 - D. Wider field of view
- 7. Which moon is known to be the binary star of Pluto?**
- A. Europa
 - B. Charon
 - C. Ganymede
 - D. Triton
- 8. Which heavenly body blocks out the light of another during an eclipse?**
- A. Moon
 - B. Planet
 - C. Star
 - D. Asteroid
- 9. What is the scientific name of a horse?**
- A. Equus
 - B. Equine
 - C. Equidia
 - D. Equidae
- 10. What is the device called that is specifically designed to measure amperage?**
- A. Ammeter
 - B. Voltmeter
 - C. Ohmmeter
 - D. Capacitor

Answers

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

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Explanations

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1. What is defined as a change in velocity (speed or direction) over a period of time?

- A. Velocity
- B. Force
- C. Acceleration**
- D. Momentum

Acceleration is defined as the rate of change of velocity over a period of time. It represents how quickly an object's speed or direction changes. When an object speeds up, slows down, or changes direction, it is experiencing acceleration. This concept is fundamental in physics because it helps describe how forces are acting upon an object. For example, if a car accelerates from a stop to a certain speed, it is undergoing a change in velocity which occurs over the time interval during which the car is increasing its speed. Understanding acceleration is essential for analyzing motion and the effects of various forces acting on moving objects.

2. What term describes the breeding process that selects for desired traits while eliminating undesired ones?

- A. Natural selection
- B. Artificial selection**
- C. Genetic drift
- D. Gene expression

The term that describes the breeding process selecting for desired traits while eliminating undesired ones is artificial selection. This process involves humans actively choosing which individuals will reproduce based on specific characteristics they wish to cultivate, such as size, color, or behavior. This method is widely used in agriculture and animal husbandry, where traits are selectively enhanced over generations to produce desired results. In contrast, natural selection is a process driven by environmental pressures where individuals with traits that enhance survival and reproduction are more likely to pass on their genes to the next generation. Genetic drift refers to random changes in allele frequencies in a population, particularly in small populations, and is not influenced by selection for traits. Gene expression involves the way genes are turned on or off in cells and does not pertain directly to the breeding process or selection.

3. What type of electric current flows in one direction?

- A. Alternating current
- B. Direct current**
- C. Pulsed current
- D. Static current

Direct current is characterized by the flow of electric charge in a single, consistent direction. This type of current is commonly used in various electronic devices and power systems where a stable voltage is needed, such as in batteries, solar panels, and electronic circuits. The consistent flow allows for predictable behavior in electronics, making it essential for devices that require a steady supply of power. Alternating current, on the other hand, changes direction periodically, making it suitable for power distribution over long distances but not applicable to situations requiring stable unidirectional flow. Pulsed current refers to a current that is intermittent and can vary in intensity, while static current typically refers to a build-up of electric charge that does not flow.

4. What device is used to detect and measure electric charge?

- A. Voltmeter
- B. Electroscope**
- C. Ammeter
- D. Ohmmeter

The device used to detect and measure electric charge is the electroscope. An electroscope operates based on the principle of electrostatics. It is a simple instrument that consists of a metal rod connected to thin metal leaves or a dial. When an object with an electric charge is brought near the electroscope or touches it, the charge is transferred to the electroscope, causing the leaves to repel each other and spread apart if the charge is of the same kind. This visual separation indicates the presence of electric charge and provides a qualitative measure of its magnitude. The other devices listed serve different functions in the field of electricity. A voltmeter is used to measure the voltage (electric potential difference) across two points in an electric circuit, rather than measuring electric charge itself. An ammeter measures the flow of electric current in a circuit, while an ohmmeter is used to measure resistance. Each of these instruments plays a crucial role in electrical measurements but does not specifically measure electric charge like the electroscope does.

5. Which term describes the Greek-derived name for the supergiant star located in the constellation of Scorpius, rival of Mars?

- A. Aquila
- B. Antares**
- C. Betelgeuse
- D. Deneb

The term that describes the Greek-derived name for the supergiant star located in the constellation of Scorpius, known as the rival of Mars, is Antares. This name comes from Greek, where "Anti" means "rival" and "Ares" refers to Mars, the Roman god of war. Antares is distinctly known for its reddish hue, which is similar to that of Mars, reinforcing its designation as a rival. Antares is one of the largest known stars and is significantly more massive than our Sun. It serves as a prominent feature in the night sky, marking the heart of the Scorpius constellation. The characteristics of Antares—the brightness, color, and position—make it a central figure for astronomers and stargazers alike. The other options represent different stars and constellations. Aquila is actually the name of a constellation featuring the bright star Altair, while Betelgeuse is a red supergiant in the constellation Orion, known for its prominence but not associated with Scorpius. Deneb is part of the constellation Cygnus and is one of the brightest stars in the night sky. Each of these stars has its own significance but does not relate to the Greek

6. What is the primary benefit of binocular vision?

- A. Increased color perception
- B. Better night vision
- C. Enhanced depth perception**
- D. Wider field of view

The primary benefit of binocular vision is enhanced depth perception. This occurs because binocular vision utilizes the slightly different perspectives from each eye to create a three-dimensional image of the environment. When the brain processes the visual information received from both eyes, it can determine the relative distance of objects, enabling an understanding of how far away they are. This depth perception is crucial for numerous activities, such as navigating spaces, estimating distances while driving, and performing tasks that involve hand-eye coordination. In comparing this to other aspects of vision, increased color perception, better night vision, and wider field of view are limited by the type of visual stimuli or the anatomy of the eyes. Binocular vision specifically excels at creating a three-dimensional understanding, which is vital for effectively interacting with the world around us.

7. Which moon is known to be the binary star of Pluto?

- A. Europa
- B. Charon**
- C. Ganymede
- D. Triton

Charon is known as the binary companion to Pluto due to its significant size relative to Pluto. This relationship is unique because Charon is approximately half the diameter of Pluto, which means that the gravitational interactions between the two bodies are quite distinct compared to the typical satellite and planet relationship. Rather than Pluto simply orbiting a singular point in space, both Pluto and Charon actually orbit around a shared center of mass, known as the barycenter, which lies outside of Pluto itself. This dynamic gives them the characteristic of being classified as a binary system in astronomy. In contrast, the other choices are moons of different celestial bodies that do not share this binary relationship with Pluto.

8. Which heavenly body blocks out the light of another during an eclipse?

- A. Moon**
- B. Planet
- C. Star
- D. Asteroid

In the context of an eclipse, the celestial body that typically blocks out the light of another is the Moon. This phenomenon occurs when the Moon passes directly between the Earth and the Sun, resulting in a solar eclipse. During this event, the Moon obscures part or all of the Sun's light from reaching the Earth. This blocking action occurs because the Moon's orbit around the Earth allows it to align in such a way that it temporarily covers the Sun's disk from the perspective of observers on the Earth's surface. In contrast, while planets, stars, and asteroids can also move across the field of view in the sky, they do not typically cause eclipses of the Sun as the Moon does due to their distance and size relative to the Earth and Sun. Therefore, in the context of the question, the Moon is the correct answer, as it is specifically associated with the occurrence of eclipses.

9. What is the scientific name of a horse?

- A. Equus
- B. Equine
- C. Equidia
- D. Equidae

The scientific name for a horse is based on its genus, which is represented by the term "Equus." This genus includes not only horses but also other closely related species such as zebras and donkeys. In taxonomy, the scientific naming convention typically uses a two-part Latin name, with the first part indicating the genus and the second part indicating the species. For horses specifically, the full scientific name is "Equus ferus caballus," where "Equus" is the genus and "caballus" denotes the specific species of domesticated horses. The other options refer to related terms; "Equine" refers to anything associated with horses, including characteristics and behaviors, rather than being the scientific name itself. "Equidia" is not a recognized term in relation to horses, and "Equidae" is the family that includes the genus Equus as well as other related genera, but it is not the specific scientific name for the horse itself. Thus, "Equus" is the precise term that identifies the genus under which horses are classified.

10. What is the device called that is specifically designed to measure amperage?

- A. Ammeter
- B. Voltmeter
- C. Ohmmeter
- D. Capacitor

An ammeter is the device specifically designed to measure amperage, which is the flow of electric current in a circuit. It is connected in series with the circuit so that all the current flowing through the circuit also passes through the ammeter. This allows it to accurately measure the amount of current in amperes (A). In contrast, other devices listed serve different functions. A voltmeter measures voltage (the electric potential difference) across two points in a circuit and is typically connected in parallel with the components being measured. An ohmmeter is used to measure the resistance of a component, displaying its resistance in ohms (Ω). A capacitor, on the other hand, is a passive electrical component that stores electric energy temporarily in an electric field, but it does not measure any electrical quantities. Understanding these distinctions helps clarify why the ammeter is the appropriate choice for measuring amperage.

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://psiascience.examzify.com>

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

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