ASVAB GENERAL 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.

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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. What is the process of dividing a cell into two identical cells called?

A. Meiosis

B. Mitosis

C. Cytokinesis

D. Fission

2. Which part of a cell is responsible for regulating what enters and exits?

A. Cytoplasm

B. Cell membrane

C. Nucleus

D. Ribosome

3. Which process is used to date ancient rocks and fossils using the decay of radioactive isotopes?

A. Geologic dating

B. Paleontology

C. Radiometric dating

D. Carbon dating

4. Which of the following is the unit of time in the SI system?

A. Kilogram

B. Meter

C. Second

D. Hour

5. What defines an element in chemistry?

A. A substance that can be chemically separated

B. A mixture of different substances

C. A substance that cannot be separated into simpler substances by ordinary chemical methods

D. A substance made of two or more elements

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6. What does "volume" measure?

A. Mass of an object
B. Two-dimensional space
C. Three-dimensional space
D. Surface area of an object

7. What is the transfer of liquid between cell walls called?

A. Diffusion
B. Evaporation
C. Osmosis
D. Filtration

8. What is a light year used to measure?

A. The speed of light in a vacuum.
B. The brightness of stars.
C. The distance in space.
D. The mass of celestial bodies.

9. What is formed when meteoroids enter the Earth's atmosphere and produce bright streaks of light?

A. Meteorites
B. Meteors
C. Meteoroids
D. Comets

10. Which body in the solar system is referred to as an icy mud ball?

A. Asteroid
B. Comet
C. Meteorite
D. Meteoroid

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Answers

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

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Explanations

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1. What is the process of dividing a cell into two identical cells called?

A. Meiosis

B. Mitosis

C. Cytokinesis

D. Fission

The process of dividing a cell into two identical cells is called mitosis. Mitosis is a type of cell division that results in two daughter cells, each possessing the same number of chromosomes as the original cell. This process is crucial for growth, tissue repair, and asexual reproduction in some organisms. During mitosis, the cell undergoes several stages: prophase, metaphase, anaphase, and telophase, which ensure that the genetic material is accurately replicated and distributed. Following mitosis, cytokinesis occurs, where the cytoplasm of the parent cell divides, completing the formation of two separate daughter cells. Meiosis, on the other hand, is a specialized form of cell division that produces gametes (sperm and eggs) and results in cells with half the original number of chromosomes. Fission refers to a simpler form of division seen in prokaryotic organisms, like bacteria, which does not involve the complex stages of mitosis. Thus, mitosis accurately describes the process of producing two identical daughter cells.

2. Which part of a cell is responsible for regulating what enters and exits?

A. Cytoplasm

B. Cell membrane

C. Nucleus

D. Ribosome

The cell membrane, also known as the plasma membrane, serves as a protective barrier that governs the movement of substances into and out of the cell. It is primarily comprised of a phospholipid bilayer with embedded proteins, which function in various roles such as transport, signaling, and structural support. The selective permeability of the cell membrane allows it to maintain the internal environment of the cell, ensuring that essential nutrients can enter while waste products and harmful substances are kept out. This regulation is crucial for cellular homeostasis, enabling the cell to function properly in changing external conditions. The presence of proteins facilitates the transport of larger molecules and ions, either through passive or active processes, further enhancing the membrane's regulatory capabilities. The other cell components, such as the cytoplasm, nucleus, and ribosomes, have distinct functions that do not involve directly regulating the passage of materials across the cell boundary. The cytoplasm houses cellular organelles and the site of metabolic processes, the nucleus contains genetic material and controls cellular activities, and ribosomes are responsible for protein synthesis. These roles are essential, but they do not pertain to the regulatory function of the cell membrane.

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3. Which process is used to date ancient rocks and fossils using the decay of radioactive isotopes?

A. Geologic dating

B. Paleontology

C. Radiometric dating

D. Carbon dating

The process that is used to date ancient rocks and fossils by relying on the decay of radioactive isotopes is known as radiometric dating. This method takes advantage of the predictable rate of decay of certain radioactive isotopes found in rocks and fossils. As these isotopes decay, they transform into different stable elements at a consistent rate, which allows scientists to measure the ratio of parent isotopes to daughter isotopes. This information can then be used to calculate the age of the rock or fossil. Different isotopes are suitable for dating different types of materials and time periods. For example, uranium-lead dating is often used for very old rocks, while potassium-argon dating can be used to date volcanic rocks. Radiometric dating is widely accepted as a reliable method for establishing the geological timeline of Earth's history. While geologic dating might refer to broader methods of determining the age of geological formations, and paleontology is the study of ancient life through fossils, neither specifically pertains to the decay of isotopes. Carbon dating, on the other hand, is a specific type of radiometric dating that is limited to organic materials and is effective only for relatively recent geological time periods (up to about 50,000 years). Thus, radiometric dating encompasses a wider range of

4. Which of the following is the unit of time in the SI system?

A. Kilogram

B. Meter

C. Second

D. Hour

The unit of time in the SI (International System of Units) system is the second. The SI system is a standardized system of measurement used globally in science and engineering, ensuring consistency in data collection and analysis. The second is defined based on the vibration of cesium atoms, making it a precise measurement of time. Other units mentioned, such as the kilogram and meter, correspond to mass and length, respectively. While the hour is also a commonly used unit of time, it is not part of the SI. Instead, the SI system specifically designates the second as the fundamental unit for measuring time. This distinction is crucial for standardized communication in scientific contexts.

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5. What defines an element in chemistry?

A. A substance that can be chemically separated

B. A mixture of different substances

C. A substance that cannot be separated into simpler substances by ordinary chemical methods

D. A substance made of two or more elements

An element in chemistry is defined as a substance that cannot be separated into simpler substances by ordinary chemical methods. This means that elements are the fundamental building blocks of matter and cannot be broken down into smaller units through typical chemical reactions. Each element is made up of only one type of atom, which is characterized by a specific number of protons in its nucleus. This unique atomic structure gives rise to the distinct properties and behaviors of each element. In contrast, a substance that can be chemically separated indicates compounds or mixtures, which consist of two or more elements or compounds that can be divided into simpler components. A mixture of different substances involves a combination of elements or compounds that retain their individual properties and can be separated by physical means, not chemical. Lastly, a substance made of two or more elements refers to a compound, which is formed when two or more elements chemically bond together, thus changing their properties and resulting in a new substance. Understanding that an element is a pure substance at the most basic level helps to grasp the concepts of chemistry and the organization of matter.

6. What does "volume" measure?

A. Mass of an object

B. Two-dimensional space

C. Three-dimensional space

D. Surface area of an object

Volume measures the amount of three-dimensional space that an object occupies. It is a quantitative expression that tells us how much 'space' there is inside a solid, liquid, or gas. The unit of volume can vary, commonly using liters, cubic centimeters, or cubic meters, and is essential in various applications, such as determining the capacity of containers or the amount of material needed for a construction project. Mass refers to the amount of matter in an object and is not directly related to volume. Two-dimensional space pertains to flat surfaces and does not account for depth or height, which are essential characteristics of three-dimensional objects. Surface area, on the other hand, measures the total area of the outer surface of a three-dimensional shape and does not provide information about the space the shape occupies. Thus, the definition of volume aligns exclusively with the measurement of three-dimensional space.

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7. What is the transfer of liquid between cell walls called?

A. Diffusion

B. Evaporation

C. Osmosis

D. Filtration

The transfer of liquid between cell walls is referred to as osmosis. Osmosis is a specific type of passive transport that involves the movement of water molecules across a semipermeable membrane from an area of lower solute concentration to an area of higher solute concentration. This movement continues until there is equilibrium reached, meaning that the concentration of solute is balanced on both sides of the membrane. In biological systems, such as in plant and animal cells, osmosis is crucial for maintaining cell turgidity and overall homeostasis. For instance, in plants, osmosis allows for the absorption of water from the soil, which then moves into the root cells and throughout the plant, enabling essential functions such as nutrient transport and photosynthesis. While diffusion involves the movement of molecules from an area of higher concentration to an area of lower concentration, and evaporation pertains to the phase change of liquid to gas, these processes do not specifically refer to the transfer of liquid in relation to cell walls. Filtration involves separating solids from liquids through a barrier, which is a different process altogether. Therefore, osmosis is the correct term for the type of liquid transfer described in the question.

8. What is a light year used to measure?

A. The speed of light in a vacuum.

B. The brightness of stars.

C. The distance in space.

D. The mass of celestial bodies.

A light year is a unit of measurement that describes the distance that light travels in one year. Given that light moves at approximately 299,792 kilometers per second (or about 186,282 miles per second), this distance amounts to about 9.46 trillion kilometers (or about 5.88 trillion miles) over a year. Thus, light years serve as a convenient way to express vast distances in space, making it easier to conceptualize how far away stars and galaxies are from Earth. This makes option C the correct answer, as it specifically relates to measuring distance rather than other aspects like speed, brightness, or mass.

9. What is formed when meteoroids enter the Earth's atmosphere and produce bright streaks of light?

A. Meteorites

B. Meteors

C. Meteoroids

D. Comets

When meteoroids enter the Earth's atmosphere and produce bright streaks of light, they are referred to as meteors. This phenomenon occurs due to the intense heat and pressure created by the meteoroids as they travel at high speeds through the atmosphere, which causes them to glow brightly. This glowing effect produces what we commonly call "shooting stars." While the other terms are related, they refer to different stages or entities in the process. Meteoroids are the small rocky or metallic bodies in space before they enter the atmosphere. Once they survive their passage through the atmosphere and land on Earth, they are known as meteorites. Comets, on the other hand, are icy bodies that release gas or dust and often develop tails when they approach the Sun, which is a separate phenomenon altogether. Thus, the correct answer identifies the specific stage of the object as it interacts with the Earth's atmosphere, leading to the visibility of bright streaks of light.

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10. Which body in the solar system is referred to as an icy mud ball?

A. Asteroid

B. Comet

C. Meteorite

D. Meteoroid

The phrase "icy mud ball" refers specifically to comets, which are composed primarily of ice, dust, and rocky material. When comets approach the Sun, they heat up and begin to release gases and dust, forming a glowing envelope called a coma and often a tail. This behavior is due to their icy composition, which sublimates (turns directly from solid to gas) when exposed to solar radiation. In contrast, asteroids are primarily made up of rock and metal and do not have the same icy characteristics as comets. Meteorites are pieces of asteroids or comets that survive their passage through Earth's atmosphere and land on the surface, while meteoroids are smaller fragments of asteroids or comets traveling through space. Understanding these distinctions emphasizes why comets are uniquely described as "icy mud balls" due to their composition and the phenomena that occur when they are near the Sun.

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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:

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

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