

PRAXIS MATH AND SCIENCE (5008) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://praxis5008.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

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

SAMPLE

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

SAMPLE

1. What is the scientific method?

- A. A systematic approach to problem-solving?
- B. An artistic interpretation of science?
- C. A way to categorize all scientific fields?
- D. A philosophy of science without experiments?

2. What does the biosphere include?

- A. Only land areas
- B. Environment devoid of life
- C. Land, water, and air where life exists
- D. Only aquatic environments

3. What does the term biome refer to?

- A. A type of climate
- B. A specific organism
- C. A large ecological area on the earth's surface
- D. A cellular structure

4. Which formula represents the volume of a cylinder?

- A. $V = \pi r^2 h$
- B. $V = 2\pi r h$
- C. $V = 4/3\pi r^3$
- D. $V = \pi d^2 h$

5. What role do decomposers play in an ecosystem?

- A. They produce energy through photosynthesis.
- B. They break down dead organic matter, recycling nutrients back into the ecosystem.
- C. They provide shelter for living organisms.
- D. They consume primary producers.

6. What defines a base 10 fraction?

- A. A fraction where the denominator is 10
- B. A simple fraction with a numerator of 1
- C. A fraction that has a denominator of 100
- D. A fraction in its simplest form

7. What is one effect of weathering on landforms?

- A. Increases the size of mountains
- B. Changes shape, size, and texture of landforms
- C. Prevents soil formation
- D. Enhances soil quality

8. What does the distributive property allow you to do?

- A. Add two coefficients together
- B. Multiply a number by each term within parentheses
- C. Switch the order of addition
- D. Assign values to variables

9. What is the chemical symbol for gold?

- A. Ag
- B. Au
- C. Pb
- D. Fe

10. Which of the following best describes an isosceles triangle?

- A. All sides are unequal
- B. It has 3 equal sides
- C. It has 2 equal sides
- D. It has one right angle

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is the scientific method?

- A. A systematic approach to problem-solving?**
- B. An artistic interpretation of science?
- C. A way to categorize all scientific fields?
- D. A philosophy of science without experiments?

The scientific method is indeed a systematic approach to problem-solving, primarily used in scientific inquiry. It involves a series of steps that researchers follow to investigate phenomena, acquire new knowledge, or correct and integrate previous knowledge. This process typically includes making observations, formulating a hypothesis, conducting experiments, analyzing data, and drawing conclusions to determine whether the hypothesis is supported or refuted. This structured methodology allows scientists to ensure that their findings are reliable and can be reproduced by others, which is fundamental to the advancement of scientific knowledge. The other options do not accurately reflect the systematic nature of the scientific method or its emphasis on experimental verification and evidence-based conclusions.

2. What does the biosphere include?

- A. Only land areas
- B. Environment devoid of life
- C. Land, water, and air where life exists**
- D. Only aquatic environments

The biosphere encompasses all regions of Earth that support life, which includes not only land areas but also the water and air. It represents the sum of all ecosystems and is where organisms interact with each other and their environment, including the soil, water bodies, and atmosphere. This definition highlights the interconnectivity of various ecosystems, showing that life exists in diverse forms across different habitats, such as forests, oceans, and deserts. By recognizing that the biosphere includes both terrestrial (land) and aquatic (water) environments, as well as the atmosphere that allows for gaseous exchanges necessary for life, we gain a more comprehensive understanding of how biological systems function and rely on one another. This understanding is crucial for studies related to ecology, environmental science, and conservation efforts.

3. What does the term biome refer to?

- A. A type of climate
- B. A specific organism
- C. A large ecological area on the earth's surface**
- D. A cellular structure

The term biome refers to a large ecological area on the earth's surface characterized by its distinctive climate, flora, and fauna. Biomes can be identified by factors such as temperature, precipitation, and the variety of organisms that inhabit them. Examples of biomes include deserts, forests, grasslands, and tundra. Each biome supports unique ecosystems that interact with the environment and adapt to specific conditions. In contrast, the other choices represent different concepts. A type of climate refers to specific weather patterns in a region, which is just one aspect of what defines a biome. A specific organism focuses on an individual living entity, while a cellular structure is related to biological organization at the microscopic level, both of which are more localized and do not encapsulate the broader ecological concept that biomes represent. Understanding this term helps in grasping larger ecological dynamics and interactions on a global scale.

4. Which formula represents the volume of a cylinder?

- A. $V = \pi r^2 h$
- B. $V = 2\pi r h$
- C. $V = \frac{4}{3}\pi r^3$
- D. $V = \pi d^2 h$

The formula for the volume of a cylinder is expressed as $V = \pi r^2 h$. This formula indicates that the volume (V) is calculated by multiplying the area of the base of the cylinder, which is a circle, (represented by πr^2 where r is the radius), by the height (h) of the cylinder. In this context, πr^2 gives the area of the circular base, while multiplying it by the height effectively stacks that base across the height of the cylinder, resulting in the total volume. This relationship highlights how the dimensions of both the base and height directly contribute to the overall capacity of the cylinder. The other options represent different geometric shapes or formulas. For instance, the formula mentioned in option B relates to the surface area of a cylinder and not its volume. The option C describes the volume of a sphere, where r is the radius of the sphere, and option D—though it resembles the formula for a cylinder—incorrectly uses diameter (d) instead of radius (r), which makes it inaccurate for calculating cylindrical volume.

5. What role do decomposers play in an ecosystem?

- A. They produce energy through photosynthesis.
- B. They break down dead organic matter, recycling nutrients back into the ecosystem.
- C. They provide shelter for living organisms.
- D. They consume primary producers.

Decomposers play a critical role in ecosystems by breaking down dead organic matter, which includes fallen leaves, dead animals, and other organic materials. This process of decomposition is vital for nutrient cycling; as decomposers break down these materials, they convert them into simpler substances that can be absorbed by plants, thereby replenishing the soil with essential nutrients. Without decomposers, dead matter would accumulate, and nutrients would remain locked away, unavailable to living organisms. This recycling process ensures that ecosystems remain productive and sustain life over time. Thus, the contribution of decomposers is fundamental to ecosystem health and functionality by maintaining the balance of nutrients in the environment.

6. What defines a base 10 fraction?

- A. A fraction where the denominator is 10
- B. A simple fraction with a numerator of 1
- C. A fraction that has a denominator of 100
- D. A fraction in its simplest form

A base 10 fraction is one in which the fraction's denominator is 10. This is because the base 10 numbering system is centered around powers of 10, which makes denominators that are powers or multiples of 10 naturally aligned with this system. For example, fractions like $\frac{1}{10}$, $\frac{3}{10}$, and $\frac{7}{10}$ are all considered base 10 fractions due to their denominators being 10. While the other options provide different characteristics of fractions, they do not correctly capture the essence of a base 10 fraction. A simple fraction with a numerator of 1 does not define the base system; rather it can exist in multiple bases. Similarly, a fraction with a denominator of 100 is relevant to base 10 when you consider decimal representation (e.g., 0.01) but it's not specifically labeled as a "base 10 fraction." Lastly, a fraction in its simplest form pertains to the reduction of fractions to their lowest terms, which is an important aspect of fractions in general but does not specifically relate to the defining characteristic of a base 10 fraction.

7. What is one effect of weathering on landforms?

- A. Increases the size of mountains
- B. Changes shape, size, and texture of landforms**
- C. Prevents soil formation
- D. Enhances soil quality

Weathering plays a critical role in shaping the Earth's surface by breaking down rocks and minerals into smaller particles through various processes such as physical, chemical, and biological action. This process actively alters the shape, size, and texture of landforms over time. For instance, physical weathering can create fissures and fractures in rocks, leading to changes in form, while chemical weathering can lead to the dissolution of minerals, affecting the land's composition. As these materials are broken down, they can accumulate and contribute to soil formation, significantly influencing the landscape. The impact of weathering is evident in features like valleys, cliffs, and sediment deposits that form through the gradual disintegration of larger geological structures, thus transforming the terrain. Thus, the correct answer outlines how weathering modifies landforms rather than just focusing on an increase or decrease in the size of geographical features.

8. What does the distributive property allow you to do?

- A. Add two coefficients together
- B. Multiply a number by each term within parentheses**
- C. Switch the order of addition
- D. Assign values to variables

The distributive property is a fundamental principle in mathematics that relates to how multiplication interacts with addition. It states that when you multiply a number by a sum of terms, you can distribute the multiplication across each term inside the parentheses. This means that if you have an expression such as $a(b + c)$, according to the distributive property, you can rewrite it as $(ab + ac)$. This property helps simplify algebraic expressions and facilitates computations, making it easier to solve equations and evaluate expressions. It is especially useful in expanding expressions and performing operations efficiently. The other options describe different mathematical concepts. Adding coefficients is a straightforward arithmetic operation, switching the order of addition refers to the commutative property, and assigning values to variables is part of the process of solving equations or evaluating expressions, but it doesn't directly relate to the distributive property itself.

9. What is the chemical symbol for gold?

- A. Ag
- B. Au**
- C. Pb
- D. Fe

The chemical symbol for gold is represented as Au. This symbol comes from the Latin term for gold, "aurum," which means shining dawn. Each element on the periodic table has a unique one- or two-letter symbol, and gold's symbol effectively conveys its identity in scientific contexts. Other symbols, like Ag for silver, Pb for lead, and Fe for iron, correspond to their respective elements and also derive from Latin or Greek origins. Understanding these symbols is crucial for recognizing elements in chemical equations, formulas, and discussions within science and math disciplines.

10. Which of the following best describes an isosceles triangle?

- A. All sides are unequal
- B. It has 3 equal sides
- C. It has 2 equal sides
- D. It has one right angle

An isosceles triangle is defined as a triangle that has two of its sides equal in length. This property leads to two angles, known as the base angles, being equal as well. The defining characteristic of having two equal sides distinguishes isosceles triangles from other types, such as scalene triangles, which have all sides of different lengths, and equilateral triangles, where all three sides are of equal length. Additionally, while some isosceles triangles can have a right angle, this is not necessary for the definition; thus, there can be isosceles triangles that are obtuse or acute. Therefore, the option stating it has two equal sides accurately describes the isosceles triangle and aligns with the fundamental geometric properties of this shape.

SAMPLE

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://praxis5008.examzify.com>

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

SAMPLE