

PRAXIS MIDDLE SCHOOL SCIENCE (5442) 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. Which climate zone lies between the tropical and polar zones and experiences cold winters and warm summers?**
 - A. Tropics
 - B. Polar Zone
 - C. Temperate Zone
 - D. Climate Types

- 2. Which of the following lists the atmosphere layers from lowest to highest?**
 - A. Troposphere, Stratosphere, Mesosphere, Thermosphere, Exosphere
 - B. Exosphere, Thermosphere, Mesosphere, Stratosphere
 - C. Troposphere, Mesosphere, Stratosphere, Exosphere, Thermosphere
 - D. Troposphere, Stratosphere, Thermosphere, Mesosphere, Exosphere

- 3. One point on a wave to the same point on the next wave is called?**
 - A. Frequency
 - B. Crest
 - C. Wavelength
 - D. Hertz

- 4. What is the name of the effect that deflects moving air and water to the left in the southern hemisphere and to the right in the northern hemisphere due to Earth's rotation?**
 - A. Gravity
 - B. Coriolis Effect
 - C. Buoyancy
 - D. Friction

- 5. Which major category includes groups 3 through 12?**
 - A. Transition Metals
 - B. Halogens
 - C. Noble Gases
 - D. Alkali Metals

6. Which theory states that matter is made of small particles called atoms?

- A. Law of Conservation of Mass
- B. Atomic Theory of Matter
- C. Kinetic Theory of Gases
- D. Quantum Theory of Energy

7. Which term is the variable influenced by the independent variable?

- A. Theory
- B. Dependent Variable
- C. Independent Variable
- D. Control

8. What term describes two or more atoms combined?

- A. Molecules
- B. Molecular Compound
- C. Diatomic Molecule
- D. Substance

9. Which term describes how something is perceived by sight, touch, smell, taste, or hearing?

- A. Physical Property
- B. Chemical Property
- C. Physical Change
- D. Conservation of Mass

10. What is the term for the total distance something has traveled divided by the total time traveled?

- A. Average Speed
- B. Speed
- C. Solvent
- D. Solubility

Answers

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

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Explanations

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1. Which climate zone lies between the tropical and polar zones and experiences cold winters and warm summers?

- A. Tropics
- B. Polar Zone
- C. Temperate Zone**
- D. Climate Types

The idea is to identify a climate zone at mid-latitudes that has seasonal temperature changes, with cold winters and warm summers. That zone is the temperate zone, which sits between the tropical and polar regions and commonly experiences distinct seasons. It differs from the tropical zone, which stays warm year-round, and the polar zone, which is cold most of the year. The option that's not a specific climate zone isn't the right fit here.

2. Which of the following lists the atmosphere layers from lowest to highest?

- A. Troposphere, Stratosphere, Mesosphere, Thermosphere, Exosphere**
- B. Exosphere, Thermosphere, Mesosphere, Stratosphere
- C. Troposphere, Mesosphere, Stratosphere, Exosphere, Thermosphere
- D. Troposphere, Stratosphere, Thermosphere, Mesosphere, Exosphere

The idea is how Earth's atmospheric layers are stacked from the surface upward, each with distinct temperature trends and characteristics. From lowest to highest, the order is: troposphere, stratosphere, mesosphere, thermosphere, exosphere. In the troposphere, weather happens and temperature typically decreases with altitude. Above it, the stratosphere contains the ozone layer and actually warms as you rise because ozone absorbs UV radiation. The mesosphere is next, where temperature falls with height and meteors often burn up. Above that, the thermosphere heats up rapidly due to absorption of high-energy solar radiation, though the air is extremely thin. Finally, the exosphere blends into space as the atmosphere thins out and particles escape outward. The other lists mix these layers in the wrong order, which is why this sequence is correct.

3. One point on a wave to the same point on the next wave is called?

- A. Frequency
- B. Crest
- C. Wavelength**
- D. Hertz

Wavelength is the distance from a point on one wave to the same point on the next wave. This can be crest to crest, trough to trough, or any corresponding point in the cycle, and it stays the same for a given wave. It's measured in meters. This is different from frequency, which counts how many waves pass a point each second (hertz), and from crest, which is just the top of a single wave. Since the question describes the distance to the same point on the next wave, the term that fits is wavelength.

4. What is the name of the effect that deflects moving air and water to the left in the southern hemisphere and to the right in the northern hemisphere due to Earth's rotation?

- A. Gravity
- B. Coriolis Effect**
- C. Buoyancy
- D. Friction

The Coriolis effect explains why moving air and water curve as Earth rotates. Because different latitudes spin eastward at different speeds, a parcel that moves carries its original momentum and ends up relative to the ground deflected. In the Northern Hemisphere this deflection is to the right, so winds and currents curve clockwise; in the Southern Hemisphere it's to the left, so they curve counterclockwise. This effect is stronger for faster motion, weaker near the equator (where it's essentially zero), and grows larger toward the poles.

5. Which major category includes groups 3 through 12?

- A. Transition Metals**
- B. Halogens
- C. Noble Gases
- D. Alkali Metals

Groups 3 through 12 are known as transition metals. They sit in the middle of the periodic table and form the d-block, where electrons occupy d orbitals. This arrangement gives them features like multiple common oxidation states, a wide variety of colorful compounds, and strong metallic properties such as good electrical conductivity. The name comes from their ability to "transition" between different charges as you move across a period. These elements are distinct from alkali metals, halogens, and noble gases, which have their own characteristic properties. So the category that includes groups 3 through 12 is transition metals.

6. Which theory states that matter is made of small particles called atoms?

- A. Law of Conservation of Mass
- B. Atomic Theory of Matter**
- C. Kinetic Theory of Gases
- D. Quantum Theory of Energy

Matter is built from tiny particles called atoms, and the atomic theory says that these atoms are the basic building blocks of all substances. This idea explains why different materials have different properties: the type of atom and how they're arranged determine what a substance is like and how it behaves. When substances change, atoms are just rearranged, not created or destroyed, which is why reactions can transform matter but conserve its overall amount. The other concepts describe how matter behaves or relates to energy or mass, but they don't claim that matter is made of atoms. That direct statement about the composition of matter is what makes the atomic theory the right choice.

7. Which term is the variable influenced by the independent variable?

- A. Theory
- B. Dependent Variable**
- C. Independent Variable
- D. Control

In experiments, you deliberately change something—the independent variable—and you observe what happens to another factor—the dependent variable. The dependent variable is the one that changes in response to the manipulation of the independent variable, which is why it's called dependent. It's the outcome you measure to see the effect of your change. A control stays the same to provide a baseline for comparison, and a theory is a broader explanation, not a variable you measure. So the term that fits the description is the dependent variable.

8. What term describes two or more atoms combined?

- A. Molecules**
- B. Molecular Compound
- C. Diatomic Molecule
- D. Substance

Two or more atoms bonded together form a molecule. That general term is molecules, because it covers any collection of atoms that are joined by chemical bonds, whether two atoms (like O₂) or many atoms (like H₂O or CO₂). A molecular compound is a specific type of molecule formed from nonmetal atoms bonded together, so it's more restrictive than the question requires. A diatomic molecule describes exactly two atoms, which doesn't include molecules built from more than two atoms. A substance is any material, which is too broad and doesn't specify how the atoms are arranged or bonded.

9. Which term describes how something is perceived by sight, touch, smell, taste, or hearing?

- A. Physical Property**
- B. Chemical Property
- C. Physical Change
- D. Conservation of Mass

Observing something by sight, touch, smell, taste, or hearing describes its physical properties. These are attributes you can sense without changing what the substance is—like color, texture, odor, and even taste in a safe context. Because these descriptions come from our senses and do not involve altering the material's composition, they fit the idea of a physical property. Chemical properties would involve how a substance might react and change into new substances, which is about chemical composition, not just how it is perceived. The other options describe changes or principles (like a change in form or the idea that mass stays the same in a closed system), not the sensory-described attributes of matter.

10. What is the term for the total distance something has traveled divided by the total time traveled?

A. Average Speed

B. Speed

C. Solvent

D. Solubility

The concept being tested is how to describe motion over an entire trip as a single rate. When you take the total distance traveled and divide it by the total time spent, you're calculating the average speed—your overall pace for the whole journey. This uses the whole course, not just a single moment, and it's measured in units like meters per second or kilometers per hour. The other terms don't fit: solvent and solubility are chemistry terms about dissolving substances, and speed alone can refer to instantaneous speed at a moment, not the overall trip.

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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:

<https://praxis5442.examzify.com>

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

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