2026 END OF YEAR SCIENCE VOCABULARY COMPETITION 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. Which material allows heat or electricity to pass through easily?

A. Insulator

B. Static Electricity

C. Conductor

D. Electricity

2. What type of energy is associated with an object's motion?

A. Potential energy

B. Chemical energy

C. Kinetic energy

D. Thermal energy

3. Which statement best defines behavioral adaptation?

A. Physical changes that improve survival

B. Genetic changes that improve survival

C. Actions an organism takes to survive and reproduce

D. Changes in the ecosystem

4. The form matter can take, such as solid, liquid, or gas, is called the

A. Volume

B. State of Matter

C. Matter

D. Mass

5. Which organelle captures light energy for photosynthesis in plant cells?

A. Nucleus

B. Ribosome

C. Mitochondrion

D. Chloroplast

6. Which term describes the property that enables an object to perform work or cause motion?

A. Force

B. Temperature

C. Solution

D. Energy

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7. What term describes the maintenance of stable internal conditions in an organism?

A. Equilibrium

B. Metabolism

C. Respiration

D. Homeostasis

8. Which statement is most accurate about behavioral adaptations?

A. They are permanent physical changes in body form.

B. They are genetic changes that happen over generations.

C. They are learned rather than instinctual.

D. They are actions or responses that help an organism survive.

9. Which group of elements is known for being inert under standard conditions?

A. Group 15 Elements

B. Group 17 Elements

C. Group 18 Elements

D. Group 16 Elements

10. What is the energy of all moving objects?

A. Chemical Energy

B. Mechanical Energy

C. Light Energy

D. Electrical Energy

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Answers

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

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Explanations

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1. Which material allows heat or electricity to pass through easily?

A. Insulator

B. Static Electricity

C. Conductor

D. Electricity

Materials that let heat or electricity pass through easily are called conductors. In a conductor, there are many free-moving charged particles, especially electrons, that can carry electrical energy from one place to another. For heat, those free electrons also shuttle kinetic energy between particles, and the lattice structure helps transfer energy quickly. That combination makes metals, like copper or aluminum, great at conducting both heat and electricity. Insulators resist the flow of energy because their electrons are bound more tightly, so heat and electrical energy don't move readily through them. Static electricity is not a material at all but a buildup of electrical charge on surfaces, so it doesn't describe a substance's ability to conduct. Electricity itself is the flow of charge, not a material, so it doesn't specify what conducts energy.

2. What type of energy is associated with an object's motion?

A. Potential energy

B. Chemical energy

C. Kinetic energy

D. Thermal energy

Kinetic energy is the energy associated with an object's motion. It depends on how fast the object is moving and how heavy it is, given by the formula KE = 1/2 m v^2. This means doubling the speed has a big effect, since velocity is squared, and increasing mass also raises the energy needed to move the object. If the object isn't moving (v = 0), its kinetic energy is zero. This form of energy is different from potential energy, which is energy due to position or configuration (like a rock held at a height). Chemical energy is energy stored in chemical bonds, released or absorbed during chemical reactions. Thermal energy relates to the random motion of many particles and is tied to temperature, not the organized motion of a single object.

3. Which statement best defines behavioral adaptation?

A. Physical changes that improve survival

B. Genetic changes that improve survival

C. Actions an organism takes to survive and reproduce

D. Changes in the ecosystem

Behavioral adaptation is about the actions organisms take to cope with their environment and increase their chances of survival and reproduction. The statement that describes this idea—that an organism's actions help it survive and reproduce—best captures what behavioral adaptation means. This is different from physical changes, which are body structures that improve survival, and from genetic changes, which are inherited differences in DNA spread over generations. It's also distinct from changes in the ecosystem, which are shifts in the environment itself rather than in the organism's behavior. Think of migrations, hibernation, or predator-avoidance behaviors as clear examples of behavioral adaptations that help an organism meet challenges and seize opportunities in its surroundings.

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4. The form matter can take, such as solid, liquid, or gas, is called the

A. Volume

B. State of Matter

C. Matter

D. Mass

The concept here is about how the form of matter is described. The form matter can take is called the state of matter. This term describes how particles are arranged and how much energy they have, which determines whether a substance is a solid, liquid, or gas. In a solid, particles are tightly packed and vibrate in place, giving a definite shape and volume. In a liquid, particles are looser and flow, so the substance takes the shape of its container but keeps a definite volume. In a gas, particles are far apart and move freely, filling the space available and having no fixed shape or volume. Temperature and pressure drive transitions between these states, like melting, freezing, boiling, and condensation. The other terms—volume, mass, and matter—refer to different properties: volume is how much space it occupies, mass is how much matter there is, and matter is the general term for anything with mass and volume. So the correct term for the form matter can take is the state of matter.

5. Which organelle captures light energy for photosynthesis in plant cells?

A. Nucleus

B. Ribosome

C. Mitochondrion

D. Chloroplast

Chloroplasts are the organelles that capture light energy for photosynthesis. They contain chlorophyll, the light-absorbing pigment, which sits in the thylakoid membranes to harvest light energy. This energy drives the light-dependent reactions, producing ATP and NADPH, which then power the Calvin cycle in the surrounding stroma to convert carbon dioxide into sugars. In contrast, mitochondria generate ATP from sugar through cellular respiration, not from light. The nucleus houses genetic material and directs cell activities, while ribosomes build proteins. So the structure specialized for turning light into usable chemical energy in plant cells is the chloroplast.

6. Which term describes the property that enables an object to perform work or cause motion?

A. Force

B. Temperature

C. Solution

D. Energy

Energy is the capacity to do work or cause motion. It explains why something can move or change: different forms of energy can be transformed to perform work, such as chemical energy in food becoming kinetic energy to move muscles, or a stretched spring releasing energy to move an object. Temperature relates to how hot something is, reflecting particle energy but not describing the ability to do work on its own. Force is the push or pull that can start or change motion, but work is done only when that force acts with a displacement, transferring energy to produce motion.

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7. What term describes the maintenance of stable internal conditions in an organism?

A. Equilibrium

B. Metabolism

C. Respiration

D. Homeostasis

This question is about how the body keeps its internal environment steady. The term for this ongoing regulation is homeostasis. It describes the body's ability to maintain stable conditions—like core temperature, blood pH, and blood glucose—despite changes in the outside world. This stability comes from feedback systems: sensors detect when a variable drifts away from its set point, and effectors take action to bring it back toward normal. For example, if you heat up, mechanisms like sweating and dilating blood vessels help cool you down; if you get cold, shivering and conserving heat help raise your temperature. It's a dynamic process, constantly adjusting to keep conditions within a narrow, healthy range. Equilibrium implies a static balance, which isn't how living systems operate. Metabolism is about all the chemical reactions that power the body, and respiration is the gas exchange and energy production process—both important, but they don't name the regulatory process of maintaining internal stability.

8. Which statement is most accurate about behavioral adaptations?

A. They are permanent physical changes in body form.

B. They are genetic changes that happen over generations.

C. They are learned rather than instinctual.

D. They are actions or responses that help an organism survive.

Behavioral adaptations are actions or responses that help an organism survive. This means the way a creature acts—such as migrating, hibernating, forming mating rituals, or using camouflage to avoid predators—improves its chances of living long enough to reproduce. These are not permanent physical changes to the body, nor are they genetic changes passed down across generations in the sense of evolving anatomy. Also, while some behaviors are instinctual, others can be learned, and both can contribute to survival. So the core idea is that behavior, in its various forms, helps organisms cope with their environment.

9. Which group of elements is known for being inert under standard conditions?

A. Group 15 Elements

B. Group 17 Elements

C. Group 18 Elements

D. Group 16 Elements

Inertness under standard conditions comes from having a full valence electron shell. The noble gases—helium, neon, argon, krypton, xenon, and radon—have complete outer shells. Helium fills its first shell with two electrons; the others have eight in their outer shell. Because that outer shell is full, these elements hardly gain, lose, or share electrons, so they don't form bonds easily. That stability makes them gases at room temperature and pressure and gives them very high ionization energies and almost zero tendency to react. In everyday chemistry, they stay largely unreactive, which is why they're described as inert under standard conditions. The other groups don't have full valence shells, so they readily engage with other elements to achieve a stable configuration. One group tends to gain or share enough electrons to reach eight, another group has seven valence electrons and is eager to gain one, and the last group has six and tends to form bonds to complete its shell. That drive to complete the valence shell is what fuels their reactivity, unlike the noble gases.

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10. What is the energy of all moving objects?

A. Chemical Energy

B. Mechanical Energy

C. Light Energy

D. Electrical Energy

Mechanical energy describes the energy of moving objects because it combines the energy of motion with the energy of position. When something is moving, it has kinetic energy, and if it's also elevated or stretched, it has potential energy. The total of these two forms—kinetic plus potential—is the mechanical energy of the system. This concept helps explain how moving objects can do work: as they move, energy can trade between kinetic and potential forms, especially in systems like a swinging pendulum, a rolling ball, or an object on a ramp. In the absence of losses like friction, the total mechanical energy stays the same, though how much is kinetic versus potential can vary during the motion. Other types of energy—chemical energy stored in bonds, light energy carried by photons, or electrical energy from charges—describe energy in different contexts and aren't specifically the energy of moving objects.

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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://endofyrscivocabcompetition.examzify.com

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

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