

Assessment Technologies Institute (ATI) Test of Essential Academic Skills (TEAS 7) Science 2026 Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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 element has the symbol 'S'?

- A. Fluorine**
- B. Chlorine**
- C. Bromine**
- D. Sulfur**

2. What is the chemical symbol for aluminum?

- A. P**
- B. Sn**
- C. Al**
- D. Hg**

3. What is primarily maintained by homeostasis in the body?

- A. Muscle Growth**
- B. Body Temperature**
- C. Posture**
- D. Digestion**

4. In an ionic bond, how are valence electrons managed?

- A. Shared**
- B. Transferred**
- C. Lost**
- D. Gained**

5. What do you call the tendency of the body to maintain a balanced internal state?

- A. Metabolism**
- B. Homeostasis**
- C. Homeopathy**
- D. Equilibrium**

6. Nucleotides are made of which components?

- A. A nitrogenous base, a phosphate group, and a sugar molecule**
- B. Amino acids and fatty acids**
- C. Sugars and starches**
- D. Minerals and vitamins**

7. What is the physical presentation of an organism's genes called?

- A. Genotype**
- B. Phenotype**
- C. Allele**
- D. Chromosome**

8. Red blood cells, also referred to as erythrocytes, are responsible for transporting what in the blood?

- A. Only carbon dioxide**
- B. Nutrients and hormones**
- C. Oxygen and carbon dioxide**
- D. Electrolytes and water**

9. What is the chemical symbol for potassium?

- A. P**
- B. Pt**
- C. K**
- D. Po**

10. What role do centrosomes play in cells?

- A. They store genetic information**
- B. They help coordinate cell division**
- C. They produce energy for the cell**
- D. They help synthesize proteins**

Answers

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

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Explanations

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1. Which element has the symbol 'S'?

- A. Fluorine
- B. Chlorine
- C. Bromine
- D. Sulfur**

The element that has the symbol 'S' is sulfur. The chemical symbols for elements are standardized and are derived from either their English or Latin names. Sulfur is a non-metal characterized by its yellow color and is essential for the formation of amino acids in living organisms. In the periodic table, sulfur is located in group 16, which is also known as the chalcogens. Its atomic number is 16, indicating that it has 16 protons in its nucleus. Sulfur plays a crucial role in biochemistry, particularly in the synthesis of proteins and enzymes. Fluorine, chlorine, and bromine are halogens and have different symbols: fluorine is represented by 'F', chlorine by 'Cl', and bromine by 'Br'. These symbols do not reflect the identity of sulfur and are associated with elements that have distinct properties and positions in the periodic table compared to sulfur.

2. What is the chemical symbol for aluminum?

- A. P
- B. Sn
- C. Al**
- D. Hg

The chemical symbol for aluminum is "Al." This symbol is derived from the first two letters of the element's name and follows the conventions of the periodic table, where each element is represented by a one- or two-letter symbol. Aluminum is classified as a post-transition metal and is known for its lightweight, malleability, and resistance to corrosion, making it valuable in various industries such as construction, transportation, and packaging. Other symbols provided in the options represent different elements: for example, "P" stands for phosphorus, "Sn" is for tin, and "Hg" represents mercury, each having distinct properties and uses in chemistry.

3. What is primarily maintained by homeostasis in the body?

- A. Muscle Growth
- B. Body Temperature**
- C. Posture
- D. Digestion

Homeostasis is a critical biological process that aims to maintain stable internal conditions within the body despite external changes. One of the key aspects primarily regulated by homeostasis is body temperature. The human body operates optimally around a specific temperature, typically around 98.6 degrees Fahrenheit (37 degrees Celsius). When the body temperature deviates from this set point, various mechanisms are activated to restore it—these include sweating to cool down and shivering to generate heat. This regulation is vital for the proper functioning of enzymes and overall metabolic processes, ensuring that the body remains in a state conducive to physiological functions. While muscle growth, posture, and digestion are important processes, they are influenced by various factors but do not have the same direct, immediate role in maintaining the stable internal environment as body temperature does.

4. In an ionic bond, how are valence electrons managed?

- A. Shared
- B. Transferred**
- C. Lost
- D. Gained

In an ionic bond, valence electrons are transferred from one atom to another. This transfer typically occurs between metals and nonmetals, where the metal donates one or more of its valence electrons, resulting in a positively charged ion (cation), while the nonmetal accepts those electrons to become a negatively charged ion (anion). This process of electron transfer leads to the formation of oppositely charged ions, which then attract each other due to electrostatic forces, creating an ionic compound.

Understanding the mechanism of ionic bonding is crucial because it illustrates how atoms achieve stable electron configurations, usually striving for eight valence electrons, known as the octet rule. This foundational concept is essential in predicting the behavior of elements during chemical reactions and the formation of various compounds.

5. What do you call the tendency of the body to maintain a balanced internal state?

- A. Metabolism
- B. Homeostasis**
- C. Homeopathy
- D. Equilibrium

The tendency of the body to maintain a balanced internal state is referred to as homeostasis. This concept is vital in physiology, as it describes the processes through which the body regulates various parameters such as temperature, pH levels, hydration, and electrolyte balance to keep them within a narrow range suitable for survival. For example, when the body gets too hot, mechanisms such as sweating are activated to bring down the body temperature. Similarly, if blood glucose levels drop, the body releases glucose from stored sources to balance it out. Homeostasis is crucial because it ensures that all bodily functions operate optimally, reflecting the dynamic equilibrium necessary for health. The other terms offered in the choices relate to different concepts: metabolism refers to the chemical processes that occur within a living organism to maintain life, homeopathy is a system of alternative medicine based on the principle of treating "like with like," and equilibrium generally describes a state of balance but does not specifically pertain to biological processes in the same way homeostasis does.

6. Nucleotides are made of which components?

- A. A nitrogenous base, a phosphate group, and a sugar molecule**
- B. Amino acids and fatty acids**
- C. Sugars and starches**
- D. Minerals and vitamins**

Nucleotides are indeed composed of a nitrogenous base, a phosphate group, and a sugar molecule. This structure is fundamental to nucleic acids like DNA and RNA. The nitrogenous base carries the genetic information, while the sugar provides the backbone to the structure, allowing for the formation of long chains essential for genetic coding. The phosphate group links these sugars together, forming the strands of nucleic acid through phosphodiester bonds. The other options do not reflect the composition of nucleotides. Amino acids and fatty acids are building blocks of proteins and lipids, respectively. Sugars and starches relate to carbohydrates and do not involve the components of nucleotides. Minerals and vitamins serve different biological functions, primarily in metabolic processes but are not part of nucleotide structure. Understanding these components is essential in the study of molecular biology and genetics.

7. What is the physical presentation of an organism's genes called?

- A. Genotype**
- B. Phenotype**
- C. Allele**
- D. Chromosome**

The physical presentation of an organism's genes is referred to as the phenotype. The phenotype encompasses the observable characteristics and traits of an organism, such as physical appearance, behavior, and physiological features. These traits arise from the interaction of the organism's genetic makeup (genotype) with environmental factors. For example, a plant's height, flower color, and leaf shape are all aspects of its phenotype that are influenced by its genetic information as well as environmental conditions like soil quality and light availability. Understanding the distinction between phenotype and genotype is essential. While genotype refers to the specific set of genes an organism carries, phenotype is the expression of those genes. Alleles represent the different variants of a particular gene that can exist, and chromosomes are the structures within cells that contain genes. Thus, while alleles and chromosomes are important components of genetics, they do not refer to the physical traits themselves.

8. Red blood cells, also referred to as erythrocytes, are responsible for transporting what in the blood?

- A. Only carbon dioxide**
- B. Nutrients and hormones**
- C. Oxygen and carbon dioxide**
- D. Electrolytes and water**

Red blood cells, or erythrocytes, play a crucial role in the circulatory system by transporting gases in the blood, primarily oxygen and carbon dioxide. These cells contain hemoglobin, a protein that binds to oxygen in the lungs and carries it to tissues throughout the body. Once the oxygen is delivered to the tissues, hemoglobin binds to carbon dioxide (a waste product of metabolism) in those tissues and transports it back to the lungs for exhalation. This dual function of transporting both oxygen and carbon dioxide is what makes red blood cells vital for maintaining the body's respiratory and metabolic processes. While nutrients and hormones, electrolytes, and water are important components of blood, they are primarily carried by plasma and other cellular components, not specifically by red blood cells. Therefore, the selection of the option that states red blood cells are responsible for transporting both oxygen and carbon dioxide accurately reflects their key physiological role in the body.

9. What is the chemical symbol for potassium?

- A. P**
- B. Pt**
- C. K**
- D. Po**

The chemical symbol for potassium is "K." This symbol comes from the Latin word "kalium," which is the origin of the element's name. Potassium is an essential alkali metal found in Group 1 of the periodic table, indicating its high reactivity and the presence of one electron in its outermost shell, which it readily loses during chemical reactions. The symbols for the other elements listed do not represent potassium. For instance, "P" is the symbol for phosphorus, "Pt" represents platinum, and "Po" stands for polonium. Each of these elements belongs to different groups in the periodic table with distinct properties and uses, making "K" the appropriate choice for potassium. Understanding the origin of chemical symbols can provide deeper insight into the chemical nature and classification of elements.

10. What role do centrosomes play in cells?

- A. They store genetic information
- B. They help coordinate cell division**
- C. They produce energy for the cell
- D. They help synthesize proteins

Centrosomes play a crucial role in coordinating cell division, specifically during the process of mitosis and meiosis. They are composed of two centrioles, which assist in organizing the microtubules that form the mitotic spindle. The mitotic spindle is essential for the correct separation of chromosomes into daughter cells, ensuring that each new cell receives the appropriate number of chromosomes. During cell division, the centrosomes duplicate, and each centrosome moves to opposite poles of the cell. This positioning helps establish the spindle framework, guiding the movement of chromosomes. Without the proper function of centrosomes, cells could experience issues such as unequal chromosome distribution or failed division, potentially leading to conditions like cancer or developmental disorders. The other options pertain to functions of different cellular components, such as the nucleus storing genetic information, mitochondria producing energy, and ribosomes synthesizing proteins. Each of these functions is distinct and does not relate to the specific role of centrosomes in facilitating cell division.

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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://ati-teas7science2025.examzify.com>

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

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