

NES Elementary Education Subtest 2 Practice Exam (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

1. What does (10^0) equal?
 - A. 10
 - B. 0
 - C. 1
 - D. It is undefined
2. Which property of addition is exemplified by the expression $2 + 3 = 3 + 2$?
 - A. Commutative property
 - B. Associative property
 - C. Identity property
 - D. Distributive property
3. Which layer of the Earth is NOT part of the geosphere?
 - A. Crust
 - B. Atmosphere
 - C. Core
 - D. Mantle
4. Which formula represents the area of a circle?
 - A. $A = 2\pi r$
 - B. $A = \pi r$
 - C. $A = \pi r^2$
 - D. $A = r^2$
5. Which kingdom includes organisms that perform photosynthesis?
 - A. Fungi
 - B. Animals
 - C. Plants
 - D. Protists

- 6. If a number's last three digits form a number that is divisible by 8, what can be determined about the number itself?**
- A. It is divisible by 4.**
 - B. It is divisible by 6.**
 - C. It is divisible by 5.**
 - D. It is divisible by 8.**
- 7. What type of tissue connects different parts of the body?**
- A. Epithelial**
 - B. Connective**
 - C. Muscle**
 - D. Nerve**
- 8. What determines the gender of an offspring in sexually reproducing organisms?**
- A. Somatic chromosomes**
 - B. Gene mutations**
 - C. X and Y chromosomes**
 - D. Environmental factors**
- 9. What does the decimal 0.5 convert to as a fraction?**
- A. $\frac{1}{4}$**
 - B. $\frac{1}{2}$**
 - C. $\frac{2}{3}$**
 - D. $\frac{3}{4}$**
- 10. What is the rule to determine if a number is divisible by 3?**
- A. If the sum of the digits is divisible by 3.**
 - B. If the last digit is 3.**
 - C. If the number ends in 0 or 5.**
 - D. If the number begins with 3.**

Answers

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

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Explanations

1. What does (10^0) equal?

- A. 10
- B. 0
- C. 1**
- D. It is undefined

The expression (10^0) equals 1 based on the rules of exponents. In mathematics, any non-zero number raised to the power of zero is defined to be 1. This rule applies regardless of the base, as long as the base is not zero. The reason this rule holds can be understood through the properties of exponents. For example, when you divide two powers with the same base, you subtract the exponents: $(a^m / a^n = a^{m-n})$. If both powers are equal, such as $(10^1 / 10^1)$, this simplifies to $(10^{1-1} = 10^0)$. Since $(10^1 / 10^1)$ is equal to 1, it follows that (10^0) must also equal 1 to maintain the consistency of the exponent rules. Understanding this concept allows students to apply the property to other exponential expressions, fostering a deeper comprehension of how exponents work in various mathematical contexts.

2. Which property of addition is exemplified by the expression $2 + 3 = 3 + 2$?

- A. Commutative property**
- B. Associative property
- C. Identity property
- D. Distributive property

The expression $2 + 3 = 3 + 2$ demonstrates the commutative property of addition. This property states that changing the order of the numbers being added does not change the sum. In this case, whether you add 2 to 3 or 3 to 2, the result remains the same (both equal 5). This fundamental principle underscores the flexibility of addition, allowing for the rearrangement of addends without affecting the outcome. It is a key concept for understanding arithmetic operations in elementary education, emphasizing that addition is not dependent on the order of the numbers involved. The associative property, on the other hand, refers to how numbers are grouped in an addition problem, indicating that the way in which numbers are grouped does not affect the sum. The identity property involves the number zero and describes how adding zero to any number results in that number itself. The distributive property connects multiplication and addition, illustrating how a single number multiplied by a sum can be distributed to each addend before being summed. Thus, the commutative property is correctly identified in this context.

3. Which layer of the Earth is NOT part of the geosphere?

A. Crust

B. Atmosphere

C. Core

D. Mantle

The atmosphere is the correct choice as it is not part of the geosphere. The geosphere refers specifically to the solid parts of Earth, which include the crust, mantle, and core. These components are composed of rocks and minerals that make up the Earth's structure. The atmosphere, on the other hand, is a layer of gases surrounding the planet and is crucial for supporting life by providing oxygen and protecting the Earth from harmful solar radiation. This gaseous layer forms a significant part of Earth's system but does not involve solid materials, which is why it is not included in the definition of the geosphere. Understanding these distinctions helps clarify the different components of Earth's system and their roles in the environment.

4. Which formula represents the area of a circle?

A. $A = 2\pi r$

B. $A = \pi r$

C. $A = \pi r^2$

D. $A = r^2$

The area of a circle is defined by the formula $A = \pi r^2$, where A represents the area, r denotes the radius of the circle, and π (pi) is a constant approximately equal to 3.14159. This formula arises from the relationship between the radius and the space contained within the circle. To better understand this formula, it can be visualized that as the radius increases, the area expands significantly because the area is proportional to the square of the radius. For instance, if you double the radius, the area increases by a factor of four (since $(2r)^2 = 4r^2$). This is an important concept in geometry as it highlights how quickly area can grow compared to linear dimensions. The other formulas presented do not accurately represent the area of a circle. For example, $A = 2\pi r$ is actually the formula for the circumference of a circle, which represents the distance around the circle rather than the space enclosed by it. $A = \pi r$ describes a concept related to circles but does not provide the correct measure of area, and $A = r^2$ does not incorporate the necessary π factor or adequately account for the circular shape. Thus, the formula $A = \pi r^2$ distinctly captures the relationship needed.

5. Which kingdom includes organisms that perform photosynthesis?

- A. Fungi**
- B. Animals**
- C. Plants**
- D. Protists**

Organisms that perform photosynthesis primarily belong to the kingdom of Plants. In this kingdom, plants convert solar energy into chemical energy through the process of photosynthesis, using chlorophyll found in their chloroplasts. This ability enables them to synthesize their own food from carbon dioxide and water, releasing oxygen as a byproduct. This characteristic is fundamental to the role of plants in ecosystems as primary producers, forming the base of the food chain. While other kingdoms, such as Protists, may include some photosynthetic organisms (like algae), the majority of organisms known for this ability are categorized within the Plant kingdom. Therefore, choosing Plants as the answer accurately reflects the dominant group responsible for photosynthesis in nature.

6. If a number's last three digits form a number that is divisible by 8, what can be determined about the number itself?

- A. It is divisible by 4.**
- B. It is divisible by 6.**
- C. It is divisible by 5.**
- D. It is divisible by 8.**

When determining the divisibility of a number by 8, the key factor is its last three digits. A number is divisible by 8 if the number formed by its last three digits is divisible by 8. Therefore, if the last three digits of a number form a number that can be divided evenly by 8, it confirms that the whole number itself is also divisible by 8. This relationship stems from how the divisibility rules work; for a number to be divisible by 8, the portion of that number directly influencing divisibility (in this case, the last three digits) must meet the criteria set for 8. Thus, the conclusion is that if the last three digits are divisible by 8, the entire number is indeed divisible by 8. The other options—divisibility by 4, 6, and 5—do not directly follow from the condition provided and cannot be inferred solely based on the requirement regarding divisibility by 8.

7. What type of tissue connects different parts of the body?

- A. Epithelial
- B. Connective**
- C. Muscle
- D. Nerve

Connective tissue plays a crucial role in the body by connecting different parts and providing structural support to organs and other tissues. It is diverse and includes several types such as adipose tissue, blood, bone, and cartilage. The primary function of connective tissue is to help hold structures together, maintain the body's shape, and provide a framework that supports organs and tissues. It also plays an important role in transportation (e.g., blood as a fluid connective tissue) and nutrient storage (e.g., adipose tissue storing fats). Other tissue types, while vital for the body's function, serve different primary roles: epithelial tissue acts as a protective barrier covering surfaces, muscle tissue is responsible for movement, and nerve tissue is involved in transmitting signals throughout the body. Thus, the function of connective tissue as a binding and supportive element makes it the correct choice for this question.

8. What determines the gender of an offspring in sexually reproducing organisms?

- A. Somatic chromosomes
- B. Gene mutations
- C. X and Y chromosomes**
- D. Environmental factors

The gender of an offspring in sexually reproducing organisms is determined by the presence of specific sex chromosomes, namely the X and Y chromosomes. In humans and many other organisms, females typically have two X chromosomes (XX), while males have one X and one Y chromosome (XY). During fertilization, when a sperm cell (which can carry either an X or a Y chromosome) merges with an egg (which always carries an X chromosome), the combination of these chromosomes determines the sex of the offspring. If the sperm carries an X chromosome, the resulting zygote will be XX, and thus female. If the sperm carries a Y chromosome, the zygote will be XY, resulting in a male offspring. This chromosomal distinction is foundational in genetics and plays a crucial role in the determination of biological sex at conception. Other options, such as somatic chromosomes, gene mutations, and environmental factors, do not play a direct role in determining the gender at the point of fertilization. Somatic chromosomes refer to the non-sex chromosomes that make up the rest of the organism's genetic material, while gene mutations can affect traits but do not dictate the sex directly. Environmental factors may influence the development or expression of sex characteristics, but they do not determine

9. What does the decimal 0.5 convert to as a fraction?

- A. $\frac{1}{4}$
- B. $\frac{1}{2}$**
- C. $\frac{2}{3}$
- D. $\frac{3}{4}$

The decimal 0.5 is equivalent to the fraction $\frac{1}{2}$ because it represents half of a whole. To convert a decimal to a fraction, you can express the decimal as a fraction over 1, which would be $\frac{0.5}{1}$. By multiplying the numerator and denominator by 10 to eliminate the decimal point, you can rewrite it as $\frac{5}{10}$. This fraction can then be simplified by dividing both the numerator and the denominator by their greatest common factor, which is 5, resulting in $\frac{1}{2}$. Thus, the correct answer is derived from the fundamental understanding that 0.5 signifies a value that is exactly halfway, or one half, of a whole.

10. What is the rule to determine if a number is divisible by 3?

- A. If the sum of the digits is divisible by 3.**
- B. If the last digit is 3.
- C. If the number ends in 0 or 5.
- D. If the number begins with 3.

The rule for determining if a number is divisible by 3 is based on the sum of its digits. When the digits of a number are added together, if the resulting sum is divisible by 3, then the original number is also divisible by 3. This principle stems from the nature of our base-10 numbering system, where the properties of divisibility can be simplified through the sum of digits. For example, consider the number 123. If you add the digits ($1 + 2 + 3$), the sum is 6, which is divisible by 3. Thus, 123 itself is also divisible by 3. This rule is useful for quickly checking divisibility without performing full division, making it a handy tool in mathematics. Other options provided do not accurately represent the rule for divisibility by 3, focusing instead on different characteristics of numbers.

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://neselementaryeducsubtest2.examzify.com>

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