

# Environmental Science (ENVS) 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. Based on Rachel Carson's concerns expressed in Silent Spring, what would her likely reaction have been to the 1969 Cuyahoga River fire?**
  - A. If humans used more solar photocells and windmills, the fires would not happen.**
  - B. The industries responsible for the pollution should be investigated by the EPA.**
  - C. These fires are a perfect example of what happens when humans use rivers for transportation.**
  - D. The river fires illustrate one of the many ways humans are polluting our environment.**
  
- 2. What is the primary advantage of renewable energy sources?**
  - A. They are often the most affordable option**
  - B. They can be replenished naturally over time**
  - C. They provide consistent energy supply regardless of weather**
  - D. They require no initial investment**
  
- 3. One concern regarding transgenic crops that produce pesticides is that this trait may:**
  - A. Be so effective, that all of the crop pests are eliminated.**
  - B. Kill other insects that are not pests.**
  - C. Be transferred to other crops, such as soybeans or cotton.**
  - D. Not kill pests that attack other crops, such as soybeans or cotton.**
  
- 4. What is the primary reason global warming is causing sea levels to rise?**
  - A. Melting ice and thermal expansion**
  - B. Greatly increased precipitation**
  - C. Increased use of irrigation and drainage of wetlands**
  - D. Ocean basins compressed by continental drift**

- 5. What type of biological control might be considered for managing zebra mussel populations in the Great Lakes?**
- A. a. Genetic control.**
  - B. b. Cultural control.**
  - C. c. Natural chemical control.**
  - D. d. Natural enemies control.**
- 6. Which type of value refers to the benefits provided by species that contribute to economic gain?**
- A. Intrinsic value**
  - B. Instrumental value**
  - C. Biological value**
  - D. Cultural value**
- 7. Which factors primarily drive the environmental changes observed in ecosystems?**
- A. Human intervention and climate change**
  - B. Biotic and abiotic interactions**
  - C. Species prevalence and density**
  - D. Geological formations alone**
- 8. What does the generation of electrical power primarily depend on?**
- A. a primary energy source such as coal or hydropower**
  - B. the increased use of energy efficiency products**
  - C. the consumption of nearly 75% of fossil fuels in the U.S.**
  - D. the use of more than half of the annual oil consumption by the U.S.**
- 9. A large urban region with low-density residences and commercial structures clustered around highways is an example of:**
- A. Urban sprawl**
  - B. Urban blight**
  - C. A pedestrian mall and green community**
  - D. A rust-belt area**

**10. What is the primary requirement for the current generation of ethanol as a biofuel?**

- A. Manure, water, and aerobic bacteria**
- B. Bioengineered bacteria and any form of cellulose**
- C. Any plant material and the process of fermentation**
- D. Sugars and the process of fermentation**

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## Answers

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

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## **Explanations**

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**1. Based on Rachel Carson's concerns expressed in Silent Spring, what would her likely reaction have been to the 1969 Cuyahoga River fire?**

- A. If humans used more solar photocells and windmills, the fires would not happen.**
- B. The industries responsible for the pollution should be investigated by the EPA.**
- C. These fires are a perfect example of what happens when humans use rivers for transportation.**
- D. The river fires illustrate one of the many ways humans are polluting our environment.**

Rachel Carson's major concerns in "Silent Spring" focused on the detrimental effects of human activities on the environment, particularly with regard to pesticide use and its impact on ecosystems. Her work underscored the interconnectedness of nature and the consequences of environmental neglect. In light of the 1969 Cuyahoga River fire, which was a dramatic manifestation of industrial pollution and environmental degradation, she would likely have viewed it as indicative of the broader issue of pollution caused by human practices. The river fire exemplifies the direct results of industrial waste and carelessness in managing environmental resources. It highlights how human activities, particularly those related to industrial operations, drastically harm natural water bodies, leading to severe ecological consequences. In the context of Carson's advocacy for environmental protection and awareness, such an incident would have reinforced her arguments about the urgent need for a reevaluation of how humans interact with and manage the environment. Thus, the fires serve as a striking illustration of the very real dangers of pollution, aligning closely with her views on environmental responsibility and the necessity for systemic change.

**2. What is the primary advantage of renewable energy sources?**

- A. They are often the most affordable option**
- B. They can be replenished naturally over time**
- C. They provide consistent energy supply regardless of weather**
- D. They require no initial investment**

Renewable energy sources are primarily advantageous because they can be replenished naturally over time. This means that resources such as sunlight, wind, and water are continuously available and can regenerate naturally, making them sustainable over the long term. Unlike fossil fuels, which can deplete and contribute significantly to environmental degradation and climate change, renewable energy sources offer a path toward sustainable energy production. This capacity for natural replenishment is crucial for reducing reliance on finite resources and minimizing ecological impact. It supports efforts to combat climate change by providing cleaner alternatives that emit less or no greenhouse gases compared to traditional energy sources. Understanding this fundamental characteristic helps underscore why adopting renewable energy is vital for environmental sustainability and addressing global energy demands. While factors such as cost, energy consistency, and initial investment are relevant to the discussion of renewable energy, they don't define the primary advantage as directly as the ability to be replenished naturally.

- 3. One concern regarding transgenic crops that produce pesticides is that this trait may:**
- A. Be so effective, that all of the crop pests are eliminated.**
  - B. Kill other insects that are not pests.**
  - C. Be transferred to other crops, such as soybeans or cotton.**
  - D. Not kill pests that attack other crops, such as soybeans or cotton.**

The concern surrounding transgenic crops that produce pesticides primarily focuses on their potential ecological impact, particularly concerning non-target organisms. When transgenic crops are engineered to produce specific pesticides, those chemicals may not only affect the intended pest species but also harm beneficial insects that play crucial roles in ecosystems, such as pollinators and natural pest regulators. This is particularly worrying because the loss of these non-target species can lead to longer-term ecological imbalances, resulting in reduced biodiversity and the breakdown of natural interactions within ecosystems. If beneficial insects are impacted by these pesticides, it could lead to increased pest populations over time, as their natural predators are diminished. Such unintended consequences can undermine the goals of using genetically modified organisms (GMOs) for pest management and raise concern about the long-term sustainability of agricultural practices. This ecological concern highlights the importance of evaluating the broader effects of transgenic crop technology beyond just pest control efficiency.

- 4. What is the primary reason global warming is causing sea levels to rise?**
- A. Melting ice and thermal expansion**
  - B. Greatly increased precipitation**
  - C. Increased use of irrigation and drainage of wetlands**
  - D. Ocean basins compressed by continental drift**

The primary reason global warming is causing sea levels to rise is due to the combination of melting ice and thermal expansion of seawater. As global temperatures increase, polar ice sheets and glaciers are melting at an accelerated rate, releasing freshwater into the oceans. This contributes directly to rising sea levels. Additionally, as water warms, it expands. This thermal expansion occurs because the molecules in water move more vigorously at higher temperatures, taking up more space and effectively causing sea levels to rise even further. The synergy of these two processes—melting ice contributing fresh water and warmer temperatures causing expanding water—underpins the significant rise in global sea levels associated with climate change. Other choices are less relevant in the context of primary causes for sea level rise. For instance, while precipitation can influence water levels locally, it does not have the same direct impact on global sea levels as melting ice and thermal expansion. Similarly, changes in irrigation practices and the compression of ocean basins due to geological processes occur independently of the immediate effects of global warming on sea level.

**5. What type of biological control might be considered for managing zebra mussel populations in the Great Lakes?**

- A. a. Genetic control.**
- B. b. Cultural control.**
- C. c. Natural chemical control.**
- D. d. Natural enemies control.**

Natural enemies control is a relevant approach for managing zebra mussel populations, as it involves introducing or enhancing natural predators or competitors that can help reduce the numbers of these invasive species. Zebra mussels are known for their rapid reproduction and ability to outcompete native species, resulting in significant ecological impacts in freshwater ecosystems like the Great Lakes. By utilizing natural enemies, such as specific species of fish, invertebrates, or microorganisms that prey on or otherwise negatively affect zebra mussels, we can potentially create a more balanced ecosystem that limits the proliferation of these invasive mussels. This method is often preferred over chemical treatments, as it aims to leverage existing biodiversity rather than introducing potentially harmful substances into the ecosystem. In contrast, genetic control involves modifying the genetics of zebra mussels directly or introducing genetically modified organisms to compete with them, which poses ethical concerns and ecological risks. Cultural control focuses on changing human practices to make the environment less conducive to zebra mussel survival, while natural chemical control refers to using natural substances to affect zebra mussel populations. These methods may not be as effective or practical in the specific context of managing existing populations of zebra mussels in large and complex ecosystems like the Great Lakes.

**6. Which type of value refers to the benefits provided by species that contribute to economic gain?**

- A. Intrinsic value**
- B. Instrumental value**
- C. Biological value**
- D. Cultural value**

The concept of instrumental value is central to understanding the economic benefits provided by species in ecological systems. Instrumental value refers to the usefulness of a species or ecosystem in fulfilling human needs and enhancing human welfare. This includes resources such as food, medicine, and raw materials that directly contribute to economic gain. For example, many plants are harvested for their nutritional value or pharmaceutical properties, while animals may be exploited for their meat or by-products. The benefits of biodiversity in terms of ecosystem services—like pollination, water purification, and carbon sequestration—also illustrate its instrumental value, as these services can lead to substantial economic advantages. Intrinsic value, on the other hand, pertains to the inherent worth of a species or ecosystem, irrespective of any economic benefit to humans. Biological value typically refers to the functional roles that species play within ecosystems, while cultural value highlights the significance of species in cultural, historical, or spiritual contexts. These other types of value do not directly address the economic role species play in human society.

**7. Which factors primarily drive the environmental changes observed in ecosystems?**

- A. Human intervention and climate change**
- B. Biotic and abiotic interactions**
- C. Species prevalence and density**
- D. Geological formations alone**

The correct choice highlights that biotic and abiotic interactions are fundamental drivers of environmental changes in ecosystems. Biotic interactions involve living organisms, including competition, predation, and symbiotic relationships, which can significantly affect species populations and community structure over time. Abiotic factors encompass non-living elements such as temperature, water availability, soil composition, and sunlight, all of which contribute to the conditions under which organisms thrive or struggle. Changes in these biotic and abiotic interactions can lead to shifts in ecosystem dynamics, influencing everything from nutrient cycling to energy flow. For example, a change in temperature due to seasonal shifts can affect species breeding cycles, while increased rainfall can alter plant growth patterns, which in turn impacts herbivores and their predators. Considering the other options, while human intervention and climate change do significantly alter ecosystems, they are more specific manifestations of broader biotic and abiotic interactions. Similarly, while species prevalence and density play roles in specific ecosystems, they are influenced by the interactions outlined in the correct answer. Geological formations, while important, impact ecosystems primarily as abiotic factors but do not drive environmental changes on their own.

**8. What does the generation of electrical power primarily depend on?**

- A. a primary energy source such as coal or hydropower**
- B. the increased use of energy efficiency products**
- C. the consumption of nearly 75% of fossil fuels in the U.S.**
- D. the use of more than half of the annual oil consumption by the U.S.**

The generation of electrical power fundamentally relies on a primary energy source, which serves as the initial input to produce electricity. This primary energy source can vary widely, including fossil fuels like coal and natural gas, as well as renewable sources like hydropower, solar, and wind energy. For example, traditional power plants convert coal or natural gas into electricity through combustion, while hydropower plants depend on flowing water to generate energy. In contrast, options that focus on energy efficiency products or statistics about fossil fuel consumption do not directly address the primary inputs needed for electricity generation. While improving energy efficiency can reduce overall energy demand and impact the broader energy market, it does not alter the fundamental dependency of power generation on specific energy sources. Similarly, while fossil fuels account for a significant percentage of energy use in the U.S., it's the primary energy sources themselves that are crucial for generating electricity, not merely consumption statistics. Ultimately, identifying reliable primary energy sources is key to understanding how electricity is generated and the ongoing discussions about energy sustainability and transition to cleaner energy alternatives.

**9. A large urban region with low-density residences and commercial structures clustered around highways is an example of:**

- A. Urban sprawl**
- B. Urban blight**
- C. A pedestrian mall and green community**
- D. A rust-belt area**

The correct answer, urban sprawl, refers to the spread of a city and its suburbs over more and more rural land, typically characterized by low-density residential and commercial development. In the context of a large urban region where the residences and commercial structures are not concentrated but rather spread out and clustered around highways, it exemplifies how urban areas can expand outward, consuming land that was previously undeveloped or used for agriculture. This pattern of development often leads to increased reliance on automobiles for transportation, as public transit options are usually limited in low-density areas. Urban sprawl can also create challenges, such as increased traffic congestion, longer commutes, and a greater impact on natural ecosystems due to land conversion. In contrast, urban blight would refer to the deterioration of a previously functioning area of a city, often resulting in economic decline and social issues. A pedestrian mall and green community suggests a focus on walkability and sustainable development, which is an opposite concept to urban sprawl. Finally, a rust-belt area generally refers to regions in the Northeastern and Midwestern United States that have experienced industrial decline, which is not necessarily related to low-density development. Therefore, urban sprawl is the most fitting description for the scenario presented.

**10. What is the primary requirement for the current generation of ethanol as a biofuel?**

- A. Manure, water, and aerobic bacteria**
- B. Bioengineered bacteria and any form of cellulose**
- C. Any plant material and the process of fermentation**
- D. Sugars and the process of fermentation**

The primary requirement for the current generation of ethanol as a biofuel is sugars and the process of fermentation. Ethanol is typically produced through the fermentation of sugars, which can come from various feedstocks, including grains like corn or sugarcane. In this process, yeast or certain bacteria convert sugars into ethanol and carbon dioxide. This fermentation process is central to biofuel production as it enables the conversion of renewable resources into usable energy. Understanding the composition of the feedstock is crucial; while some methods may involve more complex materials, the foundational requirement remains the presence of sugars that can be fermented. Therefore, the focus on sugars highlights the biochemical basis of ethanol production and underscores the importance of fermentation in transforming these sugars into ethanol, making it a viable biofuel.

## 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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://environmentalscience.examzify.com>**

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