Earth Science and Environmental Pollution 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 is NOT true of coal?

A. Energy produced from coal is inconsistent and unreliable

B. Coal is a fossil fuel

C. Coal provides relatively cheap energy

D. It releases carbon dioxide when burned

2. What is NOT true of wind energy?

A. Wind turbines convert thermal energy into electrical energy

B. Wind energy is renewable

C. Wind turbines convert kinetic energy into electrical energy

D. Wind energy production is variable

3. Which energy source is nonrenewable?

A. Geothermal

B. Solar

C. Wind

D. Coal

4. Which boundary type is commonly associated with subduction zones?

A. Convergent

B. Divergent

C. Transform

D. Passive margin

5. What effect does the addition of fertilizer have on aquatic ecosystems downstream?

A. Decrease in water temperature

B. No change

C. Increase in dissolved oxygen

D. Increase in biological oxygen demand

6. How does deforestation affect the local climate?

- **A. It increases humidity in the air and groundwater infiltration**
- **B. It reduces humidity in the air and reduces groundwater infiltration**
- **C. It increases rainfall in the local area**
- **D. It has no impact on local climate**

7. Which processes cause sediments to stick together into a sedimentary rock?

- **A. Erosion and Deposition**
- **B. Weathering and Transportation**
- **C. Cementation and Lithification**
- **D. Compaction and Lithification**

8. Which energy source is renewable?

- **A. Coal**
- **B. Oil**
- **C. Geothermal**
- **D. Nuclear**

9. What percentage of salinity do saltwater biomes have?

- **A. 1%**
- **B. 5%**
- **C. 10%**
- **D. 3%**

10. Which two processes create sedimentary rock from sediment?

- **A. Erosion and Transport**
- **B. Weathering and Erosion**
- **C. Cementation and Lithification**
- **D. Compaction and Lithification**

Answers

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

Explanations

1. What is NOT true of coal?

A. Energy produced from coal is inconsistent and unreliable

B. Coal is a fossil fuel

C. Coal provides relatively cheap energy

D. It releases carbon dioxide when burned

Reliability and baseload power are what coal excels at. Coal-fired plants are typically run continuously to provide a steady, controllable flow of electricity to meet baseline demand. This makes coal a reliable and relatively predictable energy source, unlike many renewable options that depend on weather. So the statement that energy produced from coal is inconsistent and unreliable is not true. Coal is indeed a fossil fuel, and it has historically provided relatively cheap energy. It also releases carbon dioxide when burned, which is another well-established fact about coal combustion.

2. What is NOT true of wind energy?

A. Wind turbines convert thermal energy into electrical energy

B. Wind energy is renewable

C. Wind turbines convert kinetic energy into electrical energy

D. Wind energy production is variable

Wind energy relies on the kinetic energy of moving air, not heat. Turbines capture the wind's kinetic energy as the blades turn, driving a rotor and generator to produce electricity. Heat or thermal energy isn't what's being tapped, so converting thermal energy into electrical energy isn't what wind turbines do. Wind energy is renewable because the wind is a natural, continually replenished resource driven by solar heating of the atmosphere. However, electricity from wind is variable because wind speeds fluctuate with weather and time of day, so output can rise or fall. The other statements reflect true aspects: wind energy is renewable, turbines convert kinetic energy into electrical energy, and production varies with wind.

3. Which energy source is nonrenewable?

A. Geothermal

B. Solar

C. Wind

D. Coal

Understanding renewable versus nonrenewable energy sources helps explain why coal is the nonrenewable choice here. Nonrenewable resources form or accumulate so slowly that they cannot be replenished on human timescales; once they're used, they're gone for a very long time. Coal fits this because it forms from ancient plant material buried underground and transformed by heat and pressure over millions of years. The energy stored in coal is released when we burn it, and those coal deposits cannot be quickly replaced. In contrast, geothermal, solar, and wind rely on sources that are continually available: Earth's internal heat, sunlight, and atmospheric wind patterns. These are considered renewable because their supply is effectively endless for human use, or at least recharged far faster than we consume them.

4. Which boundary type is commonly associated with subduction zones?

A. Convergent

B. Divergent

C. Transform

D. Passive margin

Convergent boundaries are where subduction zones occur. When two tectonic plates collide, the denser oceanic plate sinks beneath the other plate, pulling the rest of the slab down and forming features like deep ocean trenches. This subduction drives melting in the mantle above the sinking slab, which fuels volcanic arcs on the overriding plate, and it concentrates stress that leads to strong earthquakes. Divergent boundaries push plates apart to create new crust at ridges or rifts, not subductive zones. Transform boundaries slide plates past each other, causing lateral earthquakes without subduction, and passive margins are edge zones that aren't actively subducting.

5. What effect does the addition of fertilizer have on aquatic ecosystems downstream?

A. Decrease in water temperature

B. No change

C. Increase in dissolved oxygen

D. Increase in biological oxygen demand

When fertilizer enters a waterway, it brings extra nutrients like nitrogen and phosphorus that fuel plant and algal growth. This quick, abundant growth increases the amount of organic matter in the water. As that organic material decomposes, microbes consume dissolved oxygen, raising the biological oxygen demand. With more oxygen being used up to break down this material, the dissolved oxygen available for fish and other aquatic life drops, leading to stressed or dead zones downstream. Fertilizer doesn't directly lower water temperature and doesn't cause no change or higher dissolved oxygen overall, so the most accurate effect is an increase in biological oxygen demand.

6. How does deforestation affect the local climate?

A. It increases humidity in the air and groundwater infiltration

B. It reduces humidity in the air and reduces groundwater infiltration

C. It increases rainfall in the local area

D. It has no impact on local climate

Trees connect the atmosphere and the land through moisture: they take up water from the soil and release it as vapor from their leaves (transpiration). This process adds humidity to the air and helps keep the local climate moist. The canopy also reduces soil evaporation and keeps the surface cooler and moister. When forests are removed, less water vapor is added to the air, so local humidity tends to fall. At the same time, the soil loses the structural benefits of roots and organic matter, leading to more surface runoff and less infiltration, which lowers groundwater recharge. Taken together, deforestation tends to dry the local climate by reducing both humidity in the air and groundwater infiltration.

7. Which processes cause sediments to stick together into a sedimentary rock?

A. Erosion and Deposition

B. Weathering and Transportation

C. Cementation and Lithification

D. Compaction and Lithification

Sediments become a sedimentary rock through lithification, the process that turns loose grains into solid rock. Compaction from overlying weight squeezes the grains tighter, reducing pore space and bringing particles into closer contact. Cementation then binds them together as minerals precipitate from groundwater and fill the gaps, acting like a glue. Lithification is the overall process that includes both steps, so pairing compaction with lithification recognizes both the squeezing of sediments and their transformation into rock. In practice, cementation is the direct binding mechanism, while compaction enhances the conditions for lithification to occur.

8. Which energy source is renewable?

A. Coal

B. Oil

C. Geothermal

D. Nuclear

Renewable energy sources are those that can be replenished naturally on human timescales. Geothermal energy taps heat from inside the Earth, which is continuously produced and kept available by natural processes like radioactive decay and the planet's residual heat. Harnessing this heat doesn't consume a finite fuel stock; the source is effectively renewed as heat keeps rising from beneath the surface. That makes it sustainable in the long run, especially when the systems are managed so heat can be reinjected or the reservoir is used at a rate balance with its natural replenishment. Coal and oil, by contrast, come from ancient biological matter compressed over millions of years. Once burned, the useful portion is gone and must wait for new fossil fuels to form—a timescale far beyond human lifetimes. Nuclear energy uses uranium, a finite resource, with additional concerns about waste, which is why it's not considered renewable.

9. What percentage of salinity do saltwater biomes have?

A. 1%

B. 5%

C. 10%

D. 3%

Saltwater biomes have a salinity of about 3.5% by weight, which is roughly 35 parts per thousand. This is the standard average for seawater and explains why ocean life is adapted to that salt concentration. Among common classroom estimates, 3% is the closest approximation to the real value, while the other options are noticeably farther from typical seawater salinity. Freshwater and brackish waters fall well below this level, and 10% would be much saltier than most oceans.

10. Which two processes create sedimentary rock from sediment?

A. Erosion and Transport

B. Weathering and Erosion

C. Cementation and Lithification

D. Compaction and Lithification

When loose sediment is buried, it undergoes compaction and lithification to become rock. Compaction presses the grains closer together as overlying layers add weight, squeezing out water and reducing pore space. Lithification is the overall process that solidifies the sediment, typically including cementation, where minerals precipitate from groundwater and bind the grains into a solid rock. So, the two processes that transform sediment into sedimentary rock are compaction and lithification. The other processes—weathering, erosion, and transport—are about breaking down rocks and moving material, not turning sediment into rock.

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://earthscienceenvipollution.examzify.com

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