

NORTH CAROLINA GRADE 8 END-OF- GRADE (EOG) SCIENCE PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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 planet is known for its prominent ring system?**
- A. Jupiter
 - B. Uranus
 - C. Neptune
 - D. Saturn
- 2. Which best determines the health of a lake used as a source of freshwater?**
- A. its depth and width
 - B. its temperature and pH
 - C. its location and depth
 - D. its temperature and depth
- 3. A cold front is approaching. What weather change is most likely to occur?**
- A. Clouds and fog with warmer temperatures
 - B. Warmer temperatures with decreased wind
 - C. Temperature drop and possible precipitation
 - D. No significant weather change
- 4. What is a potential disadvantage of generating electricity from flowing water (hydropower)?**
- A. creates reservoirs
 - B. only suitable for industrial use
 - C. reduced carbon dioxide emission
 - D. ecosystem damage and loss of land
- 5. Which planet is known for its prominent ring system?**
- A. Jupiter
 - B. Saturn
 - C. Uranus
 - D. Neptune

- 6. Which statement best reflects the Law of Conservation of Mass in a chemical reaction?**
- A. Matter Is Destroyed.
 - B. New Substances Are Formed.
 - C. The Total Amount of Matter Stays the Same.
 - D. The Total Amount of Energy Increases.
- 7. Which statement best describes what an ice core is?**
- A. A sample of ice from a glacier used to study rock formation.
 - B. A hollow cylinder used to store ice samples.
 - C. A piece of ice formed from seawater.
 - D. A cylinder-shaped sample of ice drilled from a glacier used to study past climate.
- 8. What is the primary source of energy for Earth's weather and climate system?**
- A. The Moon
 - B. The Sun
 - C. Earth's core
 - D. Geothermal energy
- 9. Which of the following is an ecosystem service?**
- A. Pollination by bees
 - B. An invasive species
 - C. A nonrenewable mineral resource
 - D. Industrial pollution
- 10. How does plate tectonics explain earthquakes?**
- A. Earthquakes are caused by atmospheric pressure changes at plate boundaries.
 - B. Movement of Earth's lithospheric plates at plate boundaries causes stress that is released as earthquakes.
 - C. Earthquakes occur when oceans rise.
 - D. Earthquakes are caused by volcanic eruptions at hot spots alone.

Answers

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

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Explanations

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1. Which planet is known for its prominent ring system?

- A. Jupiter
- B. Uranus
- C. Neptune
- D. Saturn**

Rings form when debris such as ice and rock particles get caught in orbit around a planet's gravity and spread into flat disks that circle the planet. Saturn's rings are the most noticeable because they are wide, bright, and reflect a lot of sunlight, making them easy to see even with modest telescopes or spacecraft images. The particles are mostly ice, which reflects light well, and their orbits create a striking, ringed appearance around the planet. Other planets do have rings, but they aren't as prominent. Their rings tend to be fainter, darker, or narrower, so they don't stand out as clearly as Saturn's rings do. A famous feature within the rings is a broad gap caused by gravitational interactions with Saturn's moons, illustrating how rings and moons influence one another. All of this is why Saturn is known for its spectacular ring system.

2. Which best determines the health of a lake used as a source of freshwater?

- A. its depth and width
- B. its temperature and pH**
- C. its location and depth
- D. its temperature and depth

Temperature and pH most directly relate to water quality, making them the best indicators of a lake's health for freshwater use. Temperature influences how much dissolved oxygen the water can hold—warmer water can hold less oxygen, which affects fish and other aquatic life and can impact treatment processes. pH shows how acidic or basic the water is, which changes the solubility and toxicity of chemicals and nutrients and affects which organisms can thrive. Together, these two factors capture the chemical and biological conditions that determine whether the lake is healthy enough to supply safe drinking water. Physical size or location—while important for other reasons—does not by itself reveal current water quality. Depth alone doesn't tell you about contaminants or oxygen levels, and width or location don't directly indicate how suitable the water is for use.

3. A cold front is approaching. What weather change is most likely to occur?

- A. Clouds and fog with warmer temperatures
- B. Warmer temperatures with decreased wind
- C. Temperature drop and possible precipitation**
- D. No significant weather change

A cold front brings cooler air into a region. As the cold air advances, warmer air ahead of it is forced upward. That rising air cools and condenses into clouds, and precipitation can occur as the front moves through. After the front passes, you usually feel a drop in temperature and often gusty winds. So the weather change most likely to occur is a drop in temperature with possible precipitation. The other options describe conditions more typical of a warm front (clouds with warmer temperatures), a situation with warmer temperatures and less wind (not typical when a front is involved), or no significant change (unlikely when a cold front is approaching).

4. What is a potential disadvantage of generating electricity from flowing water (hydropower)?

- A. creates reservoirs
- B. only suitable for industrial use
- C. reduced carbon dioxide emission
- D. ecosystem damage and loss of land**

Hydropower depends on dams and reservoirs to capture the energy of flowing water. Creating those reservoirs often floods large areas, which can destroy or dramatically alter ecosystems and erase land that communities depend on. This flooding can displace people, disrupt habitats for plants and animals, block fish migration, and change how sediments move through rivers. Because of these broad ecological and social impacts, ecosystem damage and loss of land is the strongest way to describe a disadvantage of generating electricity from flowing water. While building reservoirs is a characteristic of hydro projects and not a standalone drawback on its own, and hydropower does typically produce less CO₂ during operation (a benefit), the main downside centers on the environmental and land-use consequences.

5. Which planet is known for its prominent ring system?

- A. Jupiter
- B. Saturn**
- C. Uranus
- D. Neptune

The main idea is recognizing which planet has a very noticeable ring system. Saturn's rings are iconic because they encircle the planet and are bright enough to be seen with small telescopes from Earth. These rings are made mostly of ice particles with some rock, and they span thousands of kilometers in width but are extremely thin, reflecting sunlight and making them easy to spot. The rings lie in Saturn's equatorial plane and are held in place by the planet's gravity. While Jupiter, Uranus, and Neptune do have rings, they are faint or dark and far less prominent than Saturn's, so Saturn is the best answer.

6. Which statement best reflects the Law of Conservation of Mass in a chemical reaction?

- A. Matter Is Destroyed.
- B. New Substances Are Formed.
- C. The Total Amount of Matter Stays the Same.**
- D. The Total Amount of Energy Increases.

In a chemical reaction, matter cannot be created or destroyed; atoms are rearranged into new substances, but the total mass stays the same in a closed system. That means the statement that the total amount of matter stays the same best captures the Law of Conservation of Mass. For example, burning a fuel in a sealed container will produce products whose mass equals the mass of the fuel plus the reactant gases—nothing vanishes or appears out of nowhere. The idea that matter is destroyed or that energy must increase doesn't align with the law. New substances can form, but the total mass remains constant, while energy can change forms.

7. Which statement best describes what an ice core is?

- A. A sample of ice from a glacier used to study rock formation.
- B. A hollow cylinder used to store ice samples.
- C. A piece of ice formed from seawater.
- D. A cylinder-shaped sample of ice drilled from a glacier used to study past climate.**

The main idea being tested is what an ice core is and how scientists use it to learn about past climate. An ice core is a cylinder-shaped sample of ice drilled from a glacier. As snow builds up and compresses into ice over many years, each layer traps air, dust, and other clues from that time. By analyzing these layers—including the trapped gases and isotopic ratios—researchers can infer past temperatures and atmospheric conditions, as well as events like volcanic eruptions. That combination of form (a drilled cylinder from a glacier) and purpose (to study past climate) is why this option is the best description. The other statements miss either the actual form, the source (glacier ice vs. seawater or stored samples), or the purpose of analyzing past climate.

8. What is the primary source of energy for Earth's weather and climate system?

- A. The Moon
- B. The Sun**
- C. Earth's core
- D. Geothermal energy

The main thing this question is testing is what powers the weather and climate system. The Sun is the primary energy source. Its radiant energy heats Earth's surface and the air above it. Because the Sun shines at different angles and different surfaces absorb heat differently, there are temperature differences from place to place and over time. These differences set air in motion: warm air rises, cooler air sinks, and winds develop to move heat around. That energy also fuels the water cycle. Sunlight causes surface water to evaporate, forming water vapor. When that vapor rises and cools, it condenses into clouds and eventually falls as rain or snow. The release of latent heat during condensation adds energy that drives storms and helps shape weather patterns. Earth's energy balance is kept by the Sun's input and energy radiated back to space, which keeps the climate relatively stable on long timescales. Other sources, like geothermal energy from Earth's interior or effects from the Moon, contribute very little to the overall energy driving weather and climate. Geothermal heat is a tiny part of the global energy budget, and the Moon does not provide energy for weather—its influence is mostly through tides, not atmospheric heating. So, solar energy is the best answer because it directly powers the heating, circulation, and moisture processes that produce weather and shape climate.

9. Which of the following is an ecosystem service?

- A. Pollination by bees**
- B. An invasive species
- C. A nonrenewable mineral resource
- D. Industrial pollution

Ecosystem services are benefits that people gain from the natural world. Pollination by bees is an ecosystem service because bees help flowering plants reproduce, which leads to fruits, seeds, and crops that humans rely on for food and biodiversity. This positive, naturally occurring process is why it's considered a service provided by ecosystems. Invasive species disrupt ecosystems, a nonrenewable mineral resource is a material resource from the Earth, and industrial pollution is something that harms environments—none of those are services.

10. How does plate tectonics explain earthquakes?

- A. Earthquakes are caused by atmospheric pressure changes at plate boundaries.
- B. Movement of Earth's lithospheric plates at plate boundaries causes stress that is released as earthquakes.**
- C. Earthquakes occur when oceans rise.
- D. Earthquakes are caused by volcanic eruptions at hot spots alone.

Plate tectonics explains earthquakes as the result of stress building up when lithospheric plates move and interact at their boundaries. As plates push, pull, or slide past each other, rocks along faults deform and store elastic energy. When the strength of the rocks is finally exceeded, they crack and snap, releasing that energy as seismic waves that travel through Earth and shake the ground. This is why earthquakes occur along fault lines where plates meet and interact at transform, divergent, or convergent boundaries. Atmospheric pressure changes, rising ocean levels, or even volcanic eruptions at hot spots do not produce the sudden, widespread rock break and energy release that earthquakes require; volcanism can cause earthquakes in some cases, but the common cause described here is the stress from plate movement at boundaries.

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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://ncgrade8eogscience.examzify.com>

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

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