

TerraNova Science 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. The process of sediment accumulation over time is called?**
 - A. Sedimentation**
 - B. Erosion**
 - C. Weathering**
 - D. Precipitation**

- 2. Which instrument measures liquid volume?**
 - A. Graduated Cylinder**
 - B. Beaker**
 - C. Stopwatch**
 - D. Digital Balance**

- 3. Which instrument would you use to observe the details of a very small object?**
 - A. Microscope**
 - B. Ruler**
 - C. Beaker**
 - D. Stopwatch**

- 4. Which subatomic particle is located in the nucleus and has no electric charge?**
 - A. Electron**
 - B. Proton**
 - C. Neutron**
 - D. Ion**

- 5. Which process helps plants form new cells?**
 - A. Respiration**
 - B. Mitosis**
 - C. Photosynthesis**
 - D. Fermentation**

- 6. Which term describes camouflage in snowy environments?**
 - A. White fur advantage.**
 - B. Water cycle energy source.**
 - C. Endocrine system function.**
 - D. Eclipse phenomenon.**

- 7. Which term describes long-term atmospheric patterns including typical temperatures and precipitation?**
- A. Climate**
 - B. Weather**
 - C. Front**
 - D. Circulation**
- 8. Which instrument measures elapsed time in seconds?**
- A. Stopwatch**
 - B. Thermometer**
 - C. Anemometer**
 - D. Pan Balance**
- 9. Which geological process reshapes Earth's surface through explosive events?**
- A. Volcanic eruptions**
 - B. Glacial erosion**
 - C. Sedimentation**
 - D. Continental crust**
- 10. The cell membrane is primarily composed of which structure?**
- A. Phospholipid bilayer**
 - B. Carbohydrate chain**
 - C. Protein channel**
 - D. DNA**

Answers

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

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Explanations

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1. The process of sediment accumulation over time is called?

A. Sedimentation

B. Erosion

C. Weathering

D. Precipitation

Sedimentation is the process by which sediment settles out of a transporting medium and accumulates in layers. As particles carried by water, wind, or ice lose enough energy, they settle to the bottom and build up over time. This gradual buildup forms sedimentary layers, which can later be compacted and cemented into sedimentary rocks. Erosion is the removal of material, weathering is the breakdown of rocks in place, and precipitation is the formation of droplets or solids from a solution—none of which describe the accumulation of sediment itself.

2. Which instrument measures liquid volume?

A. Graduated Cylinder

B. Beaker

C. Stopwatch

D. Digital Balance

Measuring liquid volume relies on an instrument with fine, evenly spaced markings that show exactly how much liquid is present. A graduated cylinder is designed for this purpose. It has many precise volume markings along its tall, narrow body, allowing you to read the liquid level in milliliters and to determine the value by looking at the bottom of the meniscus—the curved surface of the liquid. For accuracy, read at eye level. A beaker can hold liquids and often has volume marks, but its broader shape and larger, fewer marks make it less precise for exact measurements. A stopwatch measures time, not volume, and a digital balance measures mass. Therefore, the graduated cylinder is the best tool for measuring liquid volume.

3. Which instrument would you use to observe the details of a very small object?

A. Microscope

B. Ruler

C. Beaker

D. Stopwatch

To see details of a very small object, you need an instrument that can magnify and resolve tiny features beyond what the eye can detect. A microscope does exactly that by using lenses and light (or electrons) to enlarge the image and reveal fine structures, such as cells or microstructures. A ruler measures length but doesn't magnify or show details inside objects. A beaker is used for holding and measuring liquids, not for observing small features. A stopwatch tracks time, which has nothing to do with examining an object's details. So, the tool best suited for observing very small details is a microscope.

4. Which subatomic particle is located in the nucleus and has no electric charge?

- A. Electron**
- B. Proton**
- C. Neutron**
- D. Ion**

Inside the nucleus, the particles are protons and neutrons. The one that has no electric charge is the neutron. Neutrons sit in the nucleus along with protons and contribute to the atom's mass and stability, helping hold the nucleus together through the strong nuclear force. Protons, on the other hand, are positively charged, and electrons are outside the nucleus in orbit around it and carry negative charge. An ion is not a single nuclear particle; it's an atom that has a net electric charge due to gaining or losing electrons.

5. Which process helps plants form new cells?

- A. Respiration**
- B. Mitosis**
- C. Photosynthesis**
- D. Fermentation**

Forming new cells in plants happens through mitosis, a type of cell division. In mitosis, the cell first copies its genetic material and then divides to produce two genetically identical daughter cells. This process is essential for growth, tissue repair, and development, and in plants it occurs often in meristematic regions like the tips of roots and shoots. After the nucleus splits, cytokinesis finishes the job by dividing the cytoplasm; in plant cells this involves vesicles forming a cell plate that becomes a separating cell wall between the new cells. The other processes listed—respiration, photosynthesis, and fermentation—are about energy production and metabolism, not creating new cells themselves, though they support growth.

6. Which term describes camouflage in snowy environments?

- A. White fur advantage.**
- B. Water cycle energy source.**
- C. Endocrine system function.**
- D. Eclipse phenomenon.**

Camouflage in snowy environments relies on coloration that blends with the background, helping animals avoid detection. The term white fur advantage describes how having white fur can mask an animal against the snow, making it harder for predators to spot it and for prey to notice it. In winter, many species develop or molt to pale coats, increasing their chances of survival by blending into the snowy landscape. The other options relate to unrelated ideas—energy sources in the water cycle, hormone system functions, or an astronomical event—so they don't address camouflage.

7. Which term describes long-term atmospheric patterns including typical temperatures and precipitation?

- A. Climate**
- B. Weather**
- C. Front**
- D. Circulation**

The question is about distinguishing long-term patterns from short-term conditions. The term that describes the typical, long-run state of the atmosphere in a region—things like usual temperatures and how much and when precipitation occurs—is climate. It reflects averages and variations calculated over many years, not just a single day or week. Weather, by contrast, is the actual conditions you experience now or over a short period—today’s temperature, rain, wind, and humidity. Front refers to a boundary between two air masses and is a specific weather feature, not a long-term pattern. Circulation describes the movement of air on large scales (like global wind patterns), which influences climate and weather but isn’t the description of long-term patterns itself.

8. Which instrument measures elapsed time in seconds?

- A. Stopwatch**
- B. Thermometer**
- C. Anemometer**
- D. Pan Balance**

Elapsed time means how long something lasts from start to finish. To measure it, you need a tool that starts when the event begins and stops when it ends. The stopwatch is designed for that purpose: you start timing at the moment the event starts and stop when it ends, and the display shows the duration in seconds. The thermometer measures temperature, the anemometer measures wind speed, and the pan balance measures mass. So the stopwatch directly provides elapsed time in seconds.

9. Which geological process reshapes Earth's surface through explosive events?

- A. Volcanic eruptions**
- B. Glacial erosion**
- C. Sedimentation**
- D. Continental crust**

Explosive volcanic activity reshapes Earth's surface by blasting rock, ejecting ash clouds, lava, and pumice, and depositing new volcanic material. When a volcanic eruption happens, violent explosions can blow away rock, create craters and calderas, and send lava flows that quickly build or modify landforms. The combination of destruction and rapid construction leaves a markedly different landscape, with features like layered volcanic deposits, pyroclastic flows, and new volcanic cones forming where there was none before. A real-world example is how eruptions can remove mountain summits and blanket large areas with ash, dramatically altering drainage and topography. Glacial erosion involves ice slowly carving and polishing rock as it moves, which changes the landscape but not through explosive events. Sedimentation adds layers by depositing material over time, shaping land gradually rather than by sudden explosions. Continental crust is a structural component of Earth, not a process that reshapes terrain explosively.

10. The cell membrane is primarily composed of which structure?

- A. Phospholipid bilayer**
- B. Carbohydrate chain**
- C. Protein channel**
- D. DNA**

The cell membrane's basic scaffold is a phospholipid bilayer. Phospholipids have a water-loving head and a water-fearing tail, so in the watery environment of the cell they arrange into two layers with heads facing outward and tails tucked inward. This creates a flexible, semi-permeable barrier that defines the cell and controls what can pass through. Other components sit within or on this bilayer and support its functions, but they don't form its main structure. Carbohydrate chains are typically attached to proteins or lipids on the outer surface and help with cell recognition, not the overall membrane framework. Protein channels are embedded in the membrane to assist transport, while DNA resides in the nucleus or organelles, not in the membrane itself. So the phospholipid bilayer is the primary structure of the cell membrane.

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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://terranovascience.examzify.com>

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

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