Ontario Grade 9 Destreamed Science (SNC1W1) 2026 Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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 phenomenon refers to the loss of bone mass experienced by astronauts in space?

A. Astronaut bone loss

B. Seasons

C. Phases of the Moon

D. Tides

2. What type of batteries are known for being non-rechargeable and providing direct current?

A. Primary cells

B. Secondary cells

C. Rechargeable batteries

D. High-capacity cells

3. What is the role of mitochondria in cells?

A. To synthesize proteins

B. To produce energy through respiration

C. To store genetic information

D. To transport materials within the cell

4. Which term is used to describe a recognized pattern of stars?

A. Group

B. Constellation

C. Galaxy

D. System

5. Which gas is a byproduct of photosynthesis?

A. Carbon dioxide

B. Nitrogen

C. Oxygen

D. Hydrogen

6. Which visible feature on the Sun’s surface extends outward and is known for being large and bright?

A. Solar flare

B. Solar shadow

C. Solar prominence

D. Sunspot

7. In an electrical circuit, what is the component that consumes electrical energy called?

A. Electric load

B. Control device

C. Primary cells

D. Active component

8. What distinguishes renewable resources from non-renewable resources?

A. Renewable resources can be replenished naturally, non-renewable resources cannot be replaced once used.

B. Renewable resources are always more abundant than non-renewable resources.

C. Non-renewable resources can regenerate over time, while renewable resources cannot.

D. Renewable resources require human intervention to be replenished.

9. What distinguishes metalloids from metals and non-metals?

A. They are not conductive.

B. They possess properties of both metals and non-metals.

C. They are always gases at room temperature.

D. They cannot form compounds.

10. What is a group of the same species living in an area called?

A. Community

B. Population

C. Ecosystem

D. Biome

Answers

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

Explanations

1. What phenomenon refers to the loss of bone mass experienced by astronauts in space?

A. Astronaut bone loss

B. Seasons

C. Phases of the Moon

D. Tides

The phenomenon of bone mass loss experienced by astronauts in space is known as astronaut bone loss. In a microgravity environment, such as that found in outer space, the mechanical loading on bones is significantly reduced. This lower load means that bones do not receive the usual stress necessary for maintaining their density. Consequently, bone resorption, a process where bone tissue is broken down and minerals are released into the bloodstream, occurs at a higher rate than bone formation, leading to a decrease in bone mass. This condition can pose serious health risks for astronauts during and after their missions, making it an important area of study in space medicine. Other options listed do not relate to bone health or the experiences of astronauts in space; for example, seasons, phases of the Moon, and tides pertain to astronomical or environmental phenomena, not biological changes in astronauts. Focusing on the unique conditions faced in space helps us understand the specific challenges of human health when living in a microgravity environment.

2. What type of batteries are known for being non-rechargeable and providing direct current?

A. Primary cells

B. Secondary cells

C. Rechargeable batteries

D. High-capacity cells

Primary cells are known for being non-rechargeable batteries that provide direct current. These batteries are typically designed for single use, meaning that once they have discharged their stored energy, they cannot be recharged and reused. Common examples of primary cells include alkaline batteries and lithium batteries, which are widely used in everyday applications like remote controls, flashlights, and portable electronic devices. In contrast, secondary cells are rechargeable batteries that can be used multiple times by reintroducing energy into them. Rechargeable batteries specifically refer to a class that can regain their charge through an external power source, which further distinguishes them from primary cells. High-capacity cells, while they might refer to batteries with larger energy storage, do not specifically address the non-rechargeable aspect that defines primary cells. The characteristic of providing direct current is common in both primary and secondary cells, but it is the non-rechargeable nature of primary cells that is a defining trait highlighting their role in various applications where recharging is impractical or unwanted.

3. What is the role of mitochondria in cells?

A. To synthesize proteins

B. To produce energy through respiration

C. To store genetic information

D. To transport materials within the cell

Mitochondria are often referred to as the "powerhouses" of the cell due to their crucial role in energy production. They are the sites of cellular respiration, a process that converts biochemical energy from nutrients into adenosine triphosphate (ATP), which is the energy currency of the cell. This process involves the breakdown of glucose and other substrates in the presence of oxygen, resulting in the release of energy, carbon dioxide, and water. In this context, the correct answer highlights the essential function of mitochondria in generating ATP, which is vital for powering various cellular activities, from muscle contraction to nerve impulse transmission. By converting food into energy, mitochondria enable cells to carry out their functions effectively. The other options pertain to different cellular functions: protein synthesis occurs primarily in ribosomes, genetic information is stored in the nucleus within DNA, and transport within the cell is managed by the endoplasmic reticulum and vesicles. Each of these processes is critical, but they are distinctly separate from the energy-producing role of mitochondria. Understanding the function of mitochondria provides insight into how cells obtain and utilize energy, a fundamental aspect of biology.

4. Which term is used to describe a recognized pattern of stars?

A. Group

B. Constellation

C. Galaxy

D. System

A constellation is a defined area of the celestial sphere, traditionally named after a mythological figure, animal, or object, and is recognized for its specific pattern of stars as seen from Earth. These patterns were historically significant for navigation and storytelling in various cultures. In contrast, a galaxy refers to a vast system of stars, dust, and gas bound together by gravity, with our Milky Way being one example. A group can be considered a more general term that does not specifically relate to astronomy or fixed patterns in the sky. A system could also refer to various celestial phenomena but does not convey the specific meaning related to a recognized pattern of stars like a constellation does.

5. Which gas is a byproduct of photosynthesis?

A. Carbon dioxide

B. Nitrogen

C. Oxygen

D. Hydrogen

During the process of photosynthesis, plants, algae, and some bacteria convert carbon dioxide and water into glucose and oxygen using sunlight as the energy source. The overall chemical equation for photosynthesis can be simplified as: $6\ CO_2 + 6\ H_2O$ + light energy → $C_6H_{12}O_6 + 6\ O_2$ In this equation, the initial reactants are carbon dioxide and water, and the end products include glucose (which is used as energy and structural material by the plant) and oxygen. The oxygen produced during this process is released into the atmosphere as a byproduct. This release of oxygen is crucial for life on Earth, as it contributes to the air we breathe. In contrast, carbon dioxide and nitrogen are not byproducts of photosynthesis. Carbon dioxide is actually one of the key ingredients needed for photosynthesis, while nitrogen is not involved in this process at all. Hydrogen does play a role in the light-dependent reactions of photosynthesis but does not appear as a byproduct in the same way that oxygen does. Therefore, the correct answer is oxygen, as it is the gas released during photosynthesis.

6. Which visible feature on the Sun's surface extends outward and is known for being large and bright?

A. Solar flare

B. Solar shadow

C. Solar prominence

D. Sunspot

The feature on the Sun's surface that extends outward and is recognized for its large and bright appearance is known as a solar prominence. Solar prominences are large, bright features that are anchored to the Sun's surface and extend outward into the solar atmosphere, often looping thousands of kilometers high. They are composed of cooler plasma that is suspended in the hotter, ionized environment of the corona. These prominences can last for several days or even weeks and can be seen clearly during a solar eclipse or with the aid of special telescopes that focus on specific wavelengths of light. In contrast, solar flares are intense bursts of radiation caused by the release of magnetic energy associated with sunspots, but they are more transient and occur very suddenly, making them less about a continuous outward extension. Solar shadows do not exist as a recognized solar feature related to the Sun's activities. Sunspots, while visible features on the Sun, are darker areas caused by magnetic activity and do not extend outward in the way prominences do; they also appear less bright compared to prominences. Therefore, the characteristics and behavior of solar prominences make them the correct choice for this question.

7. In an electrical circuit, what is the component that consumes electrical energy called?

A. Electric load

B. Control device

C. Primary cells

D. Active component

In an electrical circuit, the component that consumes electrical energy is referred to as an electric load. This is a fundamental concept in understanding how circuits operate. The electric load is the part of the circuit that receives electrical energy and converts it into another form of energy, such as heat, light, or mechanical energy. Common examples of electric loads include light bulbs, resistors, and motors, all of which perform work by transforming electrical energy into other forms. While control devices, such as switches or relays, manage the flow of electricity within a circuit, they do not consume electrical energy themselves. Primary cells, which are a type of battery, store and provide electrical energy but do not consume it within the context of a circuit. Active components typically refer to devices such as transistors and amplifiers that can control the flow of current, but they do not classify as energy consumers like electric loads do. Understanding the role of electric loads in a circuit is crucial for grasping basic electrical principles and applications.

8. What distinguishes renewable resources from non-renewable resources?

A. Renewable resources can be replenished naturally, non-renewable resources cannot be replaced once used.

B. Renewable resources are always more abundant than non-renewable resources.

C. Non-renewable resources can regenerate over time, while renewable resources cannot.

D. Renewable resources require human intervention to be replenished.

The distinction between renewable and non-renewable resources primarily hinges on their ability to be replenished. Renewable resources are those that can naturally regenerate within a human timeframe. Examples include solar energy, wind power, and biomass, which are replenished through natural processes such as sunlight, wind, or sustainable harvesting practices. Once consumed or used, non-renewable resources, such as fossil fuels (coal, oil, natural gas) and minerals, deplete and cannot be replaced on a human scale, taking millions of years to form. This fundamental difference in replenishment rates is why the first statement accurately captures the essence of the distinction between these types of resources. The other options, while they might touch on related concepts, do not define the critical attribute that distinguishes the two categories. Resources being always more abundant or requiring human intervention does not hold true across all contexts and thus does not serve as a defining criterion.

9. What distinguishes metalloids from metals and non-metals?

A. They are not conductive.

B. They possess properties of both metals and non-metals.

C. They are always gases at room temperature.

D. They cannot form compounds.

Metalloids are unique elements that display a combination of properties characteristic of both metals and non-metals, which is what makes option B the correct choice. This dual nature is significant in understanding the behavior and application of metalloids in various chemical and physical contexts. For instance, metalloids can conduct electricity better than non-metals but not as efficiently as metals, which makes them useful as semiconductors in electronic devices. Additionally, their chemical properties can vary widely; they can react like metals in some situations and like non-metals in others, depending on the conditions and the specific elements involved. The other options are incorrect because they do not accurately describe metalloids. For instance, metalloids are actually conductive to some degree, contradicting the notion that they are not conductive. They can also exist as solids at room temperature rather than being exclusively gases. Lastly, metalloids can and do form compounds, further distinguishing them from the assertion that they cannot do so.

10. What is a group of the same species living in an area called?

A. Community

B. Population

C. Ecosystem

D. Biome

A group of the same species living in a specific area is known as a population. In ecological terms, a population represents all the individuals of a single species that share a common environment and have the potential to interbreed. This concept is crucial in understanding dynamics related to species survival, reproduction, and the ability of that species to adapt to changes in their environment. The term "community" refers to a broader concept that includes multiple populations of different species living and interacting in the same area. An "ecosystem," on the other hand, encompasses not only the living organisms (biota) within a specific environment but also the physical components (like soil, water, and climate) that interact with these organisms. Lastly, a "biome" is a larger geographical area characterized by specific climate conditions and particular types of ecosystems, such as deserts or rainforests. Therefore, the most accurate term for a group of the same species in a specific location is population.

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://ontariosnc1w1.examzify.com

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