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

Study Guide

BY EXAMZIFY

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. How do you calculate the density of an object?

- **A. Density = mass + volume**
- **B. Density = mass/volume**
- **C. Density = volume/mass**
- **D. Density = mass × volume**

2. Which process allows plants to produce their own food?

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

3. Which is a characteristic of a chemical property?

- **A. Color**
- **B. Flammability**
- **C. Mass**
- **D. Volume**

4. What is the term for the total mass of living matter in a given area?

- **A. Biomass**
- **B. Biotic Potential**
- **C. Population Density**
- **D. Carrying Capacity**

5. What is the unit for potential difference?

- **A. Amperes (A)**
- **B. Ohms (Ω)**
- **C. Volts (V)**
- **D. Joules (J)**

6. Which property is only observable at a molecular level?

- **A. Physical Property**
- **B. Chemical Property**
- **C. Macroscopic Property**
- **D. Subatomic Property**

7. If a circuit has a voltage of 10 volts and a resistance of 2 ohms, what is the current?

A. 5 Amperes

B. 20 Amperes

C. 2 Amperes

D. 10 Amperes

8. Which of the following is NOT a characteristic of non-metals?

A. Shiny

B. Brittle

C. Poor conductors

D. Dull

9. What role do producers play in an ecosystem?

A. They convert inorganic materials into organic matter

B. They consume other organisms for energy

C. They regulate the population of herbivores

D. They decompose dead matter

10. Define a virus.

A. A living organism that can reproduce independently

B. A microscopic infectious agent that cannot reproduce outside a host cell

C. A bacterial infection caused by pathogens

D. A type of fungus that affects plant life

Answers

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

Explanations

1. How do you calculate the density of an object?

A. Density = mass + volume

B. Density = mass/volume

C. Density = volume/mass

D. Density = mass × volume

To calculate the density of an object, you divide its mass by its volume. Density is defined as the amount of mass contained in a given volume. This relationship can be expressed with the equation: Density = mass / volume. From a practical standpoint, if you have a specific mass of an object and know the space it occupies (its volume), this formula allows you to calculate how compact that material is. For example, if you have a mass of 10 grams and a volume of 2 cubic centimeters, the density would be 10 grams divided by 2 cubic centimeters, resulting in 5 grams per cubic centimeter. This concept is fundamental in understanding material properties and behaviors in both scientific studies and real-world applications.

2. Which process allows plants to produce their own food?

A. Photosynthesis

B. Respiration

C. Fermentation

D. Transpiration

Photosynthesis is the process by which plants convert light energy, usually from the sun, into chemical energy stored in glucose, a type of sugar that serves as food for the plant. During this process, plants take in carbon dioxide from the air through their leaves and absorb water from the soil through their roots. Using sunlight, they transform these ingredients into glucose and oxygen, the latter of which is released back into the atmosphere as a byproduct. This fundamental process is essential for plant growth and development and forms the basis of the food chain for all living organisms, as plants are primary producers. The other processes listed play important roles in the functioning of living organisms but do not enable plants to produce their own food. Respiration refers to the metabolic process by which cells convert glucose and oxygen into energy, carbon dioxide, and water, essentially breaking down food rather than creating it. Fermentation is an anaerobic process that some organisms use to obtain energy without oxygen, typically in the absence of light, and is not how plants produce food. Transpiration is the process of water vapor being released from the plant's leaves into the atmosphere, which is important for water regulation but does not involve the production of food. Thus, photosynthesis is specifically the process that

3. Which is a characteristic of a chemical property?

A. Color

B. Flammability

C. Mass

D. Volume

Flammability is indeed a characteristic of a chemical property. Chemical properties describe a substance's ability to undergo chemical changes and transformations, which often result in the formation of new substances. Flammability refers to a material's ability to ignite and burn when exposed to a flame or high temperatures, indicating how that substance reacts when combined with oxygen. This property is crucial in assessing safety and risk in various environments. In contrast, the other choices reflect physical properties. Color is a physical attribute that can be observed without changing the substance's chemical structure. Mass and volume also pertain to physical characteristics; mass measures how much matter is present in an object, while volume measures the space that an object occupies. These properties do not involve a change to the substance's chemical identity or its ability to participate in chemical reactions.

4. What is the term for the total mass of living matter in a given area?

A. Biomass

B. Biotic Potential

C. Population Density

D. Carrying Capacity

The term for the total mass of living matter in a given area is biomass. Biomass refers to the organic material that comes from plants and animals and is an important concept in ecology and environmental science. It is measured in terms of weight per unit area and can be used to understand the energy available in a particular ecosystem. For instance, higher biomass in a region typically indicates a more vibrant and productive ecosystem, often correlating with a greater number of plants and animals that can coexist in that environment. Biotic potential refers to the maximum reproductive capacity of an organism under optimal environmental conditions, which doesn't focus on mass but rather on reproduction. Population density is a measure of the number of individuals living in a given space, which does not directly relate to the total mass of living matter. Carrying capacity is the maximum number of individuals an environment can sustainably support, which again, does not address mass but rather population limits. These concepts are associated with ecological dynamics but specifically focus on different aspects of biological and environmental interaction rather than cumulative mass.

5. What is the unit for potential difference?

A. Amperes (A)

B. Ohms (Ω)

C. Volts (V)

D. Joules (J)

The unit for potential difference is volts (V). Potential difference, often referred to as voltage, measures the amount of energy per unit charge that is available to move charge from one point to another in an electrical circuit. It indicates how much energy is provided to the charges, enabling them to do work as they move through the circuit. Understanding that volts relate specifically to this concept helps in grasping how electrical systems function, as it reflects the driving force that pushes electric current through circuit components. In contrast, amperes (A) represent the flow of electric current, ohms (Ω) measure resistance in a circuit, and joules (J) quantify energy. Each of these units plays a crucial role in electrical science, but when specifically discussing potential difference, volts is the correct and relevant unit.

6. Which property is only observable at a molecular level?

A. Physical Property

B. Chemical Property

C. Macroscopic Property

D. Subatomic Property

The correct answer is that a chemical property is only observable at a molecular level because it pertains to the potential of a substance to undergo chemical changes, which can only be detected by observing the behavior and reactivity of the molecules or compounds under specific conditions. Examples of chemical properties include reactivity with other chemicals, flammability, and acidity, all of which require interaction at the molecular level to assess. In contrast, physical properties can typically be observed and measured without causing a change in the substance, such as color, melting point, and density, and are often observable at a macroscopic level. Macroscopic properties refer to those that can be seen and measured directly, such as volume or mass, while subatomic properties relate to particles even smaller than molecules, like electrons and protons, which are not typically considered when discussing molecular interactions and behaviors.

7. If a circuit has a voltage of 10 volts and a resistance of 2 ohms, what is the current?

A. 5 Amperes

B. 20 Amperes

C. 2 Amperes

D. 10 Amperes

To determine the current in a circuit based on the voltage and resistance, you can apply Ohm's Law, which states that the current (I) is equal to the voltage (V) divided by the resistance (R). The formula is: I = V/R In this scenario, the voltage is given as 10 volts and the resistance is 2 ohms. Plugging in these values into the formula: I = 10 volts / 2 ohms I = 5 Amperes This calculation indicates that the current flowing through the circuit is 5 Amperes. Understanding this relationship between voltage, current, and resistance is fundamental in electrical circuits and highlights how these elements interact. The other options provided are either results of incorrect calculations based on misunderstanding the relationship defined by Ohm's Law or applying incorrect mathematical operations. This reinforces the importance of accurately applying the formula to arrive at the correct answer.

8. Which of the following is NOT a characteristic of non-metals?

A. Shiny

B. Brittle

C. Poor conductors

D. Dull

Non-metals typically exhibit specific characteristics that differentiate them from metals. Among these characteristics, being dull is a common trait; non-metals generally lack the shiny luster that metals possess. Non-metals are also often brittle when they are solid, meaning they can break easily when subjected to stress, unlike metals which tend to be malleable and ductile. Another key feature of non-metals is that they are poor conductors of electricity and heat, making them insulators rather than conductors. Therefore, options related to dullness, brittleness, and being poor conductors align well with the common properties seen in non-metals. However, the characteristic of being shiny is not associated with non-metals. Instead, this trait is generally linked to metals, which reflect light and have a lustrous appearance. Hence, non-metals do not exhibit shininess, making it the correct choice for the characteristic that is NOT typical of non-metals.

9. What role do producers play in an ecosystem?

A. They convert inorganic materials into organic matter

B. They consume other organisms for energy

C. They regulate the population of herbivores

D. They decompose dead matter

Producers play a fundamental role in an ecosystem, primarily through their ability to convert inorganic materials, such as carbon dioxide and water, into organic matter via the process of photosynthesis. This process occurs in plants and some microorganisms, which use sunlight to synthesize food, thus forming the base of the food chain. By creating organic compounds, producers not only provide energy for themselves but also serve as a crucial energy source for herbivores, which in turn are preyed upon by carnivores in the ecosystem. The other roles outlined in the alternative options do not pertain directly to producers. Consumers, such as herbivores and carnivores, are responsible for consuming other organisms for energy, while population regulation of herbivores is typically managed by predators and environmental factors. Decomposers, on the other hand, break down dead organic matter, recycling nutrients back into the ecosystem but are distinct from producers in terms of their function and energy acquisition.

10. Define a virus.

A. A living organism that can reproduce independently

B. A microscopic infectious agent that cannot reproduce outside a host cell

C. A bacterial infection caused by pathogens

D. A type of fungus that affects plant life

A virus is accurately defined as a microscopic infectious agent that cannot reproduce outside a host cell. Viruses are fundamentally different from living organisms because they lack the cellular structure and metabolic machinery necessary for independent reproduction and survival. Instead, they rely on invading the living cells of a host organism. Once inside the host cell, the virus commandeers the cell's machinery to replicate and produce new virus particles, leading to infection. This dependency on a host for reproduction highlights why viruses are categorized differently from bacteria or fungi and considered non-living entities when outside a host organism. Understanding this distinction is crucial for studying virology and their role in diseases.

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!