PSLE SCIENCE – GENERAL PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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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!

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Questions

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1. **Which part of the cell contains the genetic material?**

   A. Cytoplasm

   B. Plasma membrane

   C. Nucleus

   D. Ribosome

2. **What is the name of the phenomenon where light bends when it passes through different mediums?**

   A. Reflection

   B. Refraction

   C. Diffraction

   D. Transmission

3. **What is the main environmental issue caused by increased emissions of carbon dioxide?**

   A. Ozone Layer Depletion

   B. Global Warming

   C. Loss of Biodiversity

   D. Acid Rain

4. **What are the tiny openings on the underside of a leaf that allow for gas exchange?**

   A. Chloroplasts

   B. Stomata

   C. Guard cells

   D. Vascular bundles

5. **What do we call the change of state from gas to liquid?**

   A. Addition

   B. Condensation

   C. Evaporation

   D. Sublimation

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6. What is the main source of energy for the process of photosynthesis?

A. Water

B. Soil nutrients

C. Carbon dioxide

D. Sunlight

7. What are the three states of matter?

A. Solid, Liquid, Gas

B. Solid, Liquid, Plasma

C. Gas, Liquid, Vapor

D. Solid, Gas, Energy

8. Which organisms can make their own food through photosynthesis?

A. Producers

B. Consumers

C. Decomposers

D. Predators

9. What is the phenomenon called when the Earth's atmospheric temperature increases due to rising carbon dioxide levels?

A. Global Warming

B. Acid Rain

C. Greenhouse Effect

D. Ozone Depletion

10. Which layer surrounds the cytoplasm of a cell and regulates what enters and exits?

A. Cell membrane

B. Cell wall

C. Nucleus

D. Cytoplasm

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Answers

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

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Explanations

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1. Which part of the cell contains the genetic material?

A. Cytoplasm

B. Plasma membrane

C. Nucleus

D. Ribosome

The nucleus is the part of the cell that contains the genetic material, which is organized into chromosomes made of DNA. The DNA within the nucleus holds the instructions for the development, function, growth, and reproduction of the organism. This genetic material is crucial because it determines traits and guides all cellular activities by directing the synthesis of proteins. The cytoplasm, while essential for various cellular processes, is the gel-like substance that fills the cell and houses the organelles but does not contain genetic material. The plasma membrane serves as the boundary of the cell, regulating what enters and exits but does not participate in storing genetic information. Ribosomes play a role in protein synthesis and do not store or contain genetic material. Therefore, the nucleus is specifically responsible for housing the genetic blueprint that is vital for life.

2. What is the name of the phenomenon where light bends when it passes through different mediums?

A. Reflection

B. Refraction

C. Diffraction

D. Transmission

The phenomenon where light bends when it passes through different mediums is known as refraction. This occurs because light travels at different speeds in different materials. For example, when light moves from air into water, it slows down and changes direction, which is the bending effect that we observe. This bending is significant in various applications, such as lenses in glasses or cameras, where controlling the path of light is essential for clarity and focus. Refraction plays a crucial role in our understanding of optics and helps explain various optical effects, such as the way a straw appears bent when placed in a glass of water. This fundamental concept illustrates how light behaves under differing conditions, making it an important topic in physics and science education.

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3. What is the main environmental issue caused by increased emissions of carbon dioxide?

A. Ozone Layer Depletion

B. Global Warming

C. Loss of Biodiversity

D. Acid Rain

Increased emissions of carbon dioxide are primarily linked to global warming, which is a significant environmental issue. The rise in carbon dioxide levels in the atmosphere contributes to the greenhouse effect, where greenhouse gases trap heat from the sun. This process results in an increase in the Earth's average temperature, leading to various climate changes. Global warming can cause severe weather events, rising sea levels, and shifting ecosystems, all of which pose threats to natural habitats and human societies. The increased temperature can result in the melting of polar ice and glaciers, exacerbating issues like flooding in coastal areas and impacting freshwater sources. While ozone layer depletion, loss of biodiversity, and acid rain are serious environmental concerns, they are not directly caused by increased carbon dioxide emissions. Ozone layer depletion is primarily associated with substances like chlorofluorocarbons (CFCs), loss of biodiversity can result from various factors including habitat destruction and pollution, and acid rain is mainly related to sulfur dioxide and nitrogen oxides from industrial processes. Thus, global warming remains the most relevant issue directly consequent to rising carbon dioxide levels.

4. What are the tiny openings on the underside of a leaf that allow for gas exchange?

A. Chloroplasts

B. Stomata

C. Guard cells

D. Vascular bundles

The tiny openings on the underside of a leaf that facilitate gas exchange are known as stomata. These structures are essential for the process of photosynthesis, as they allow carbon dioxide to enter the leaf while enabling oxygen and water vapor to exit. Stomata open and close to regulate the exchange of gases and to help prevent water loss through transpiration. In relation to the context of the question, chloroplasts are the organelles where photosynthesis occurs, but are not openings for gas exchange. Guard cells are specialized cells that surround each stoma and control its opening and closing, playing a crucial role in regulating gas exchange and water loss, but they themselves are not the openings. Vascular bundles consist of xylem and phloem, which transport water, nutrients, and food throughout the plant, but they do not function as openings for gas exchange. Thus, stomata is the correct choice in this scenario as they are directly responsible for the gas exchange in leaves.

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5. What do we call the change of state from gas to liquid?

A. Addition

B. Condensation

C. Evaporation

D. Sublimation

The change of state from gas to liquid is called condensation. This process occurs when gas particles lose energy and come closer together, resulting in a transition to the liquid state. For example, when water vapor in the air cools down, it condenses into liquid water, forming droplets on surfaces or contributing to cloud formation. In contrast, evaporation refers to the process where a liquid turns into gas, while sublimation describes the transition of a solid directly into a gas, bypassing the liquid state entirely. Addition does not pertain to any specific change of state; rather, it is a term generally used to describe the act of adding something. Understanding these processes is crucial in recognizing how matter behaves under different conditions.

6. What is the main source of energy for the process of photosynthesis?

A. Water

B. Soil nutrients

C. Carbon dioxide

D. Sunlight

The main source of energy for the process of photosynthesis is sunlight. During photosynthesis, plants capture sunlight through a pigment called chlorophyll located in their leaves. This light energy is then used to convert carbon dioxide from the air and water from the soil into glucose, a form of sugar that serves as food for the plant. Additionally, oxygen is released as a byproduct of this process. Sunlight provides the necessary energy to drive the chemical reactions involved in the synthesis of glucose, making it an essential component of photosynthesis. Without adequate sunlight, plants would not have the energy required to produce their own food, which would ultimately affect their growth and survival. Other options like water, soil nutrients, and carbon dioxide are important materials used in photosynthesis, but they do not provide the energy required for the process.

7. What are the three states of matter?

A. Solid, Liquid, Gas

B. Solid, Liquid, Plasma

C. Gas, Liquid, Vapor

D. Solid, Gas, Energy

The three states of matter are solid, liquid, and gas. This classification is based on the arrangement and movement of particles in a substance. In solids, particles are closely packed together and vibrate in fixed positions, giving them a definite shape and volume. In liquids, particles are still close but can move around more freely, allowing them to take the shape of their container while maintaining a fixed volume. Gases have particles that are far apart and move rapidly, which means that they can fill the volume of the container they are in and have neither a definite shape nor a fixed volume. While other options include terms like plasma, vapor, and energy, they do not represent the fundamental categories of matter in the same way. Plasma, for instance, is a state of matter that occurs at very high temperatures and involves ionized gas, but it is not one of the three primary states typically discussed in basic science education. Similarly, the term "vapor" refers to the gaseous state of a substance that is usually liquid or solid at room temperature, and "energy" is a separate concept related to the ability to do work, rather than a state of matter.

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8. Which organisms can make their own food through photosynthesis?

A. Producers

B. Consumers

C. Decomposers

D. Predators

The correct answer is producers. Producers are organisms that have the ability to make their own food through the process of photosynthesis. This process involves converting sunlight, carbon dioxide, and water into glucose and oxygen, primarily using chlorophyll found in plants. Examples of producers include green plants, algae, and certain bacteria. These organisms form the foundation of the food chain, as they provide energy and nutrients for consumers and other organisms. In contrast, consumers are organisms that cannot produce their own food and must rely on eating other organisms, be it plants or animals. Decomposers break down dead organic matter and return nutrients to the soil, playing an essential role in ecosystems but not engaged in photosynthesis. Predators, which are a type of consumer, specifically hunt other animals for food. Thus, the key distinction lies in the ability to perform photosynthesis, which is exclusive to producers.

9. What is the phenomenon called when the Earth's atmospheric temperature increases due to rising carbon dioxide levels?

A. Global Warming

B. Acid Rain

C. Greenhouse Effect

D. Ozone Depletion

The phenomenon where the Earth's atmospheric temperature increases due to rising carbon dioxide levels is known as Global Warming. This term specifically refers to the long-term trend of increasing temperatures in the Earth's atmosphere and oceans, primarily caused by human activities that increase greenhouse gas concentrations, such as carbon dioxide from burning fossil fuels. While the Greenhouse Effect also refers to the process where certain gases, including carbon dioxide, trap heat in the atmosphere, Global Warming encompasses the broader implications of this effect on climate patterns and temperature rise over time. It's crucial to differentiate between the two, as the Greenhouse Effect is a natural process that contributes to maintaining Earth's temperature, whereas Global Warming specifically addresses the concerning changes associated with human impact on these systems. Acid Rain and Ozone Depletion are separate environmental issues and do not directly relate to the rise in atmospheric temperature due to carbon dioxide levels.

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10. Which layer surrounds the cytoplasm of a cell and regulates what enters and exits?

A. Cell membrane

B. Cell wall

C. Nucleus

D. Cytoplasm

The cell membrane is the layer that surrounds the cytoplasm of a cell and plays a crucial role in regulating what enters and exits the cell. This semi-permeable membrane is made primarily of phospholipids and proteins, which allows it to selectively allow substances to pass through while keeping others out. This selectivity is vital for maintaining the cell's internal environment, enabling it to carry out necessary functions and respond to changes in the external environment. The cell membrane also contains various proteins and cholesterol, which assist in communication with other cells and provide structural support. This functional aspect distinguishes it from the other structures mentioned, such as the cell wall, which is found in plant cells and provides extra protection but does not have the same selective permeability function. The nucleus is an organelle that houses the cell's genetic material and is not involved in regulating substance movement in and out of the cell, and the cytoplasm is the jelly-like substance inside the cell where various cellular processes occur but is not a regulatory layer.

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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://pslesciencegeneral.examzify.com

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

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