IGCSE Coordinated Science Vocabulary 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

1. Electromagnetic waves are referred to as what?

A. Magnetism

B. Refraction

C. Radiation

D. Diffraction

2. The SI unit kilogram is used to measure which quantity?

A. Mass

B. Time

C. Length

D. Electric current

3. What term describes the rate of flow of electric charge?

A. Current

B. Potential difference

C. EMF

D. Electric field

4. A unit containing all of the organisms and their environment, interacting together in a given area is called what?

A. Ecosystem

B. Biome

C. Community

D. Habitat

5. Which term describes the distance between identical points on successive waves?

A. Wavelength

B. Frequency

C. Amplitude

D. Period

6. Genetic and/or environmental differences within a population are called?

A. Variation

B. Mutation

C. Adaptation

D. Selection

7. Which term refers to the breakdown of large molecules into smaller, soluble molecules?

A. Digestion

B. Absorption

C. Assimilation

D. Metabolism

8. Which term describes organisms that can cause disease?

A. Pathogens

B. Antigens

C. Hormones

D. Enzymes

9. Which process releases relatively small amounts of energy by the breakdown of food substances in the absence of oxygen?

A. Anaerobic respiration

B. Aerobic respiration

C. Fermentation

D. Transpiration

10. The physical traits that result from the genotype and the environment are called what?

A. Genotype

B. Allele

C. Phenotype

D. Food web

Answers

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

Explanations

1. Electromagnetic waves are referred to as what?

A. Magnetism

B. Refraction

C. Radiation

D. Diffraction

Electromagnetic waves are referred to as radiation because radiation means energy that is transmitted as waves through space. These waves carry energy away from a source without needing a material medium, traveling at the speed of light in vacuum. They form oscillating electric and magnetic fields and include a wide range from radio waves to gamma rays. Saying they are radiation captures the idea that they are a form of radiant energy spreading through space, not something like magnetism, which is a property of certain materials; not refraction, which describes how waves bend at boundaries; and not diffraction, which describes bending around obstacles. This makes radiation the best description for electromagnetic waves as a whole.

2. The SI unit kilogram is used to measure which quantity?

A. Mass

B. Time

C. Length

D. Electric current

The kilogram is the unit used to measure mass, the amount of matter in an object. Mass stays the same whether you're on Earth or elsewhere (gravity changing weight, not mass). Other quantities use different SI units—for example, time in seconds, length in meters, and electric current in amperes. The kilogram is defined to keep mass measurements precise, and 1 kilogram equals 1000 grams.

3. What term describes the rate of flow of electric charge?

A. Current

B. Potential difference

C. EMF

D. Electric field

The rate at which electric charge flows is current. It tells you how much charge passes a point every second, and it's measured in amperes (1 ampere = 1 coulomb per second). This flow occurs because a potential difference pushes charges through a conductor, but current specifically describes the amount of charge moving per unit time. The other terms describe related ideas: potential difference is the push or energy per unit charge that drives the flow; EMF is the total energy per charge provided by a source (often when no current is flowing inside the source); and the electric field is the space around charges that exerts force on them.

4. A unit containing all of the organisms and their environment, interacting together in a given area is called what?

A. Ecosystem

B. Biome

C. Community

D. Habitat

An ecosystem is the unit that includes all the living organisms in an area plus the non-living environment with which they interact. It covers how plants, animals, microbes, air, water, soil and climate form a system where energy flows and nutrients cycle, all within a defined space. This integrates both biotic and abiotic parts, which is what makes the ecosystem different from other terms: a biome is a large geographic region defined by climate and typical communities; a community is just the living organisms in an area; a habitat is the specific place where an organism lives within that ecosystem.

5. Which term describes the distance between identical points on successive waves?

A. Wavelength

B. Frequency

C. Amplitude

D. Period

The distance between identical points on successive waves is called wavelength. It measures the spatial pattern of a wave—the length of one complete cycle, such as from crest to crest or from trough to trough. Wavelength is typically measured in meters and relates to the wave's speed and frequency through speed equals frequency times wavelength. So, for a fixed speed, increasing how often the wave repeats (higher frequency) shortens the distance between identical points (shorter wavelength), while decreasing frequency lengthens it. The other terms describe different aspects: frequency is how many cycles occur each second (hertz), amplitude is how high the wave's displacement reaches (its height), and period is the time for one complete cycle (the reciprocal of frequency).

6. Genetic and/or environmental differences within a population are called?

A. Variation

B. Mutation

C. Adaptation

D. Selection

Variation describes the differences you see among individuals in a population. These differences come from genetic factors passed down and from environmental influences that can change how traits develop or are expressed. Because of this mix of genetic and environmental differences, some individuals have traits that suit the environment better, which is why variation is essential for evolution and selection to act on. Mutation is a way new genetic differences can arise, but it's just one source of variation. Adaptation refers to a trait that helps survival in a given environment, not the overall set of differences itself. Selection is the process that changes how common different traits become over generations, not the existence of those differences.

7. Which term refers to the breakdown of large molecules into smaller, soluble molecules?

A. Digestion

B. Absorption

C. Assimilation

D. Metabolism

Digestive breakdown is the process of breaking down large molecules into smaller, soluble molecules so the body can use them. Enzymes cut big food polymers like starch, proteins, and fats into their basic units—starch becomes simple sugars, proteins become amino acids, and fats become fatty acids and glycerol. This digestion starts in the mouth, continues with stomach acids and enzymes, and is completed in the small intestine where most absorption happens. After digestion, these small molecules can be absorbed into the bloodstream for use by cells. Absorption is about taking in nutrients; assimilation is how cells use those nutrients, and metabolism covers all the chemical reactions in the body, including both breakdown and synthesis.

8. Which term describes organisms that can cause disease?

A. Pathogens

B. Antigens

C. Hormones

D. Enzymes

Pathogens are organisms that can cause disease. They include bacteria, viruses, fungi and parasites. They cause illness by invading the body, damaging tissues, producing toxins, or triggering harmful immune responses that make you feel unwell. Antigens are substances that the immune system recognizes to mount a response, not disease-causing organisms themselves. Hormones are chemical messengers that regulate body processes, and enzymes are proteins that speed up chemical reactions. So the term that specifically describes disease-causing organisms is pathogens.

9. Which process releases relatively small amounts of energy by the breakdown of food substances in the absence of oxygen?

A. Anaerobic respiration

B. Aerobic respiration

C. Fermentation

D. Transpiration

Energy can be released from food without using oxygen through anaerobic respiration. When oxygen isn't available, cells still break down glucose, but only a small amount of energy is produced—about 2 ATP per glucose, far less than the thousands produced with oxygen in aerobic respiration. In animals, the pyruvate from glycolysis is converted to lactic acid to keep glycolysis going without oxygen; in some microbes, fermentation converts pyruvate to ethanol and carbon dioxide. The other options don't fit: aerobic respiration needs oxygen and yields much more energy, and transpiration is a plant process involving water loss rather than energy release from food. Fermentation is related and also happens without oxygen, but the general term for this energy-releasing breakdown is anaerobic respiration.

10. The physical traits that result from the genotype and the environment are called what?

A. Genotype

B. Allele

C. Phenotype

D. Food web

Physical traits you can observe, like eye color, height, or leaf shape, are called phenotypes. These arise from the genetic instructions you inherit (the genotype) and how those instructions are expressed in real life through environmental factors such as nutrition, climate, and exposure. The environment can influence how strongly genes express themselves, so the phenotype is the visible outcome of both genes and environment working together. For example, a plant might have the genetic potential to be tall, but poor soil or lack of water can limit its height; skin color can be influenced by genes but darkens with sun exposure. The genotype, by contrast, is the actual set of genes someone carries, not the outward trait; an allele is a variant form of a gene; and a food web is a picture of feeding relationships in an ecosystem, not an individual trait.

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://igcsecoordinatedsciencevocab.examzify.com

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