

IGCSE COORDINATED SCIENCE VOCABULARY PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE

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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. What is the function of the nucleus in a cell?

- A. It contains the cell's DNA and controls activities.
- B. It releases energy from glucose during respiration (ATP production).
- C. It conducts photosynthesis.
- D. It stores water.

2. A circulatory system is described as what?

- A. A system of tubes with a pump and valves to ensure one-way flow of blood
- B. The digestive system
- C. The nervous system
- D. The respiratory system

3. Two identical alleles of the same gene are called what?

- A. Homozygous
- B. Heterozygous
- C. Dominant
- D. Recessive

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 gradual changes in a population over generations?

- A. Evolution
- B. Adaptation
- C. Mutation
- D. Natural selection

- 6. The transfer of heat through the particles in a liquid or gas is called?**
- A. Conduction
 - B. Convection
 - C. Radiation
 - D. Condensation
- 7. The transmission of genetic information from generation to generation is called?**
- A. Inheritance
 - B. Mutation
 - C. Variation
 - D. Adaptation
- 8. The SI unit ampere is used to measure which quantity?**
- A. Electric current
 - B. Temperature
 - C. Time
 - D. Mass
- 9. Which statement best describes diffusion?**
- A. Movement of solutes from high to low concentration down a gradient
 - B. Movement of water across a membrane
 - C. Movement of ions against their gradient
 - D. Movement of water from low to high concentration
- 10. Define renewable energy.**
- A. Energy from sources that can be replenished naturally (e.g., solar).
 - B. Energy that cannot be used again.
 - C. Energy stored in batteries only.
 - D. Energy produced by burning fossil fuels.

Answers

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

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Explanations

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1. What is the function of the nucleus in a cell?

- A. It contains the cell's DNA and controls activities.
- B. It releases energy from glucose during respiration (ATP production).**
- C. It conducts photosynthesis.
- D. It stores water.

The nucleus is the cell's control center. It houses the DNA that contains the genetic instructions for making proteins. By regulating gene expression, it tells the cell which proteins to produce and when, guiding growth, metabolism, and division. While energy production from glucose happens in the mitochondria and ATP is generated there, and photosynthesis occurs in chloroplasts, the nucleus provides the instructions that determine which proteins are made to drive all these activities. Water storage, on the other hand, is handled by vacuoles.

2. A circulatory system is described as what?

- A. A system of tubes with a pump and valves to ensure one-way flow of blood**
- B. The digestive system
- C. The nervous system
- D. The respiratory system

Think of blood traveling through a controlled loop. The circulatory system fits that description because it uses a pump (the heart) to drive blood through a network of tubes (arteries, veins, and capillaries). Valves inside the heart and some vessels keep blood moving in one direction, preventing backflow. This combination—a pump plus a system of tubes with valves to ensure one-way flow—defines how blood is circulated around the body. The other options describe different body functions: the digestive system breaks down food, the nervous system coordinates signals, and the respiratory system exchanges gases.

3. Two identical alleles of the same gene are called what?

- A. Homozygous**
- B. Heterozygous
- C. Dominant
- D. Recessive

Alleles for a gene come in pairs, one on each chromosome from each parent. When those two alleles are the same, the genotype is homozygous. That means you have identical genetic instructions for that gene on both inherited copies. If the two alleles were different, you'd have a heterozygous genotype. Dominant and recessive describe how those alleles affect the trait you see (the phenotype) rather than whether the two alleles are the same, so they don't define the term for identical alleles. For example, with a gene where one allele is for purple and the other for white, a plant with two purple alleles or two white alleles is homozygous, while a plant with one of each is heterozygous.

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 gradual changes in a population over generations?

A. Evolution

B. Adaptation

C. Mutation

D. Natural selection

Over many generations, a population's genetic makeup can shift as allele frequencies change due to different survival and reproduction rates. This is evolution. It's a slow, cumulative process that can lead to new traits becoming common and even new species over long timescales. An individual trait that helps an organism survive in a given environment is an adaptation, but it's a feature that results from evolution rather than the overall process itself. Mutation provides new genetic variation, the raw material for evolution, but by itself doesn't describe the population-wide change across generations. Natural selection is one mechanism that drives evolution by favoring organisms with advantageous traits, allowing those alleles to spread through the population. Since the question describes gradual changes in a population over generations, evolution is the best fit.

6. The transfer of heat through the particles in a liquid or gas is called?

A. Conduction

B. Convection

C. Radiation

D. Condensation

Convection is the transfer of heat through the movement of fluid particles in liquids and gases. When part of the liquid or gas is heated, its particles move faster and spread apart, making that region less dense so it rises. Cooler, denser portions then sink, creating a circulating pattern that carries heat through the fluid. A common example is heating water in a pot: the hot bottom layer rises while cooler liquid moves down to take its place, forming convection currents that distribute heat. This differs from conduction, which relies on direct contact and vibrations of particles (more important in solids), and from radiation, which transfers heat by infrared waves and can occur without any medium. Condensation is a phase change, not a heat-transfer mechanism through a medium.

7. The transmission of genetic information from generation to generation is called?

A. Inheritance

B. Mutation

C. Variation

D. Adaptation

The idea being tested is inheritance—the passing of genetic information from parents to offspring. When organisms reproduce, their genes carried on chromosomes are transmitted to the next generation, so offspring inherit many of the traits their parents have. This transmission happens because each parent contributes a set of chromosomes, containing the organism's DNA, to the offspring. That's why children often resemble their parents and why traits run in families. Differences among individuals come from how the different versions of genes (alleles) combine, plus occasional mutations that introduce new variation. Other terms like mutation, variation, and adaptation involve changes and differences, but the direct process of how information is conveyed from one generation to the next is inheritance.

8. The SI unit ampere is used to measure which quantity?

A. Electric current

B. Temperature

C. Time

D. Mass

Ampere is the unit used for electric current, the flow rate of electric charge in a circuit. One ampere means one coulomb of charge passes a point each second, so it directly measures how much charge is moving per unit time. That's why it's used to quantify current. It's not a unit for temperature, time, or mass, which are measured in kelvin, seconds, and kilograms respectively. In practice, an ammeter is placed in series to measure how much charge—and thus how much current—is moving through a component.

9. Which statement best describes diffusion?

A. Movement of solutes from high to low concentration down a gradient

B. Movement of water across a membrane

C. Movement of ions against their gradient

D. Movement of water from low to high concentration

Diffusion is the spreading of particles from an area of higher concentration to an area of lower concentration because of their random motion. It is a passive process, meaning no energy is required. The statement that best describes diffusion is the one that says solutes move down a concentration gradient, from high to low concentration. This captures the essence of diffusion as particles naturally spread out until evenly mixed. Other descriptions refer to different processes: movement of water across a membrane is osmosis, not diffusion; movement of ions against their gradient is active transport, which uses energy; and water moving from low to high concentration isn't how diffusion is described.

10. Define renewable energy.

A. Energy from sources that can be replenished naturally (e.g., solar).

B. Energy that cannot be used again.

C. Energy stored in batteries only.

D. Energy produced by burning fossil fuels.

Renewable energy means energy from sources that are naturally replenished, so they can keep providing energy over time. Examples include sunlight for solar power, wind, flowing water for hydro, geothermal heat, and biomass. Because these sources continually regenerate through natural processes, they offer a sustainable supply unlike fossil fuels, which are finite and emit CO₂ when burned. The other statements mix up storage or production: energy isn't defined by being kept in batteries, and burning fossil fuels is not renewable.

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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://igcsecoordinatedsciencevocab.examzify.com>

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

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