IGCSE Coordinated Science Vocabulary Practice Test (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. **Which term best describes the interaction of living organisms with their physical environment in a defined area?**

   A. Ecosystem

   B. Biome

   C. Community

   D. Habitat

2. **What is the fundamental process by which plants manufacture carbohydrates from raw materials using energy from light?**

   A. Photosynthesis

   B. Respiration

   C. Transpiration

   D. Germination

3. **Which quantity is defined as the energy per unit charge supplied by a source to move charges around a circuit?**

   A. Electromotive force

   B. Potential difference

   C. Current

   D. Electric field

4. **The maintenance of a constant internal environment is known as what?**

   A. Homeostasis

   B. Metabolism

   C. Respiration

   D. Digestion

5. **What term describes a plant growth response in which the plant grows towards or away from light?**

   A. Phototrophism

   B. Geotropism

   C. Hydrotropism

   D. Thigmotropism

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

A. Inheritance

B. Mutation

C. Variation

D. Adaptation

7. Which heat transfer occurs primarily in fluids like air and water?

A. Conduction

B. Convection

C. Radiation

D. Evaporation

8. Which term describes organisms that can cause disease?

A. Pathogens

B. Antigens

C. Hormones

D. Enzymes

9. An allele that is expressed in the phenotype whenever present describes which term?

A. Dominant

B. Recessive

C. Allele

D. Genotype

10. A network of interconnected food chains showing energy flow through part of the ecosystem is called what?

A. Food web

B. Food chain

C. Ecosystem

D. Habitat

Answers

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

Explanations

1. Which term best describes the interaction of living organisms with their physical environment in a defined area?

A. Ecosystem

B. Biome

C. Community

D. Habitat

An ecosystem is how living organisms interact with the physical environment within a defined area. It includes all the living things—plants, animals, microbes—as well as the non-living surroundings like air, water, soil, and climate, and it covers the processes that connect them, such as energy flow, food webs, decomposition, and nutrient cycles. This concept best fits the idea of both organisms and their environment in a particular place because it emphasizes the dynamic relationships between life and the physical world. Biomes describe very large, climate-driven regions and are broader than a single defined area. A community refers to all the living populations in an area, but doesn't include the non-living environment. A habitat is the specific place where an organism lives, focusing on location rather than the full interactions and processes of the ecosystem.

2. What is the fundamental process by which plants manufacture carbohydrates from raw materials using energy from light?

A. Photosynthesis

B. Respiration

C. Transpiration

D. Germination

Photosynthesis is the process by which plants use light energy to convert carbon dioxide and water into glucose, a carbohydrate, with oxygen released as a byproduct. In the chloroplasts of leaf cells, light energy drives reactions that fix CO_2 and split water, building sugars that the plant can use for immediate energy or store as starch. The energy from light ends up stored in the chemical bonds of the glucose molecule, enabling growth and metabolism. This is why plants can manufacture their own carbohydrates from simple raw materials. Other processes involve different roles for plants: respiration releases energy from sugars, transpiration is the loss of water from the plant, and germination is the sprouting of a seed using stored energy.

3. Which quantity is defined as the energy per unit charge supplied by a source to move charges around a circuit?

A. Electromotive force

B. Potential difference

C. Current

D. Electric field

Energy per unit charge supplied by a source to move charges around a circuit is electromotive force. This describes how much energy the source gives to each coulomb of charge as it powers the loop, and it is measured in volts. Potential difference, in contrast, is the energy per unit charge moved between two points in the circuit, such as across a component; it reflects energy changes along the path rather than what the source provides to drive the current. Current is the rate at which charge flows, not energy per unit charge, and the electric field is the force per unit charge acting on charges, not the energy supplied by the source. Because the definition centers on the energy the source delivers to move charges around the circuit, the term that fits is electromotive force.

4. The maintenance of a constant internal environment is known as what?

A. Homeostasis

B. Metabolism

C. Respiration

D. Digestion

Maintaining a constant internal environment is homeostasis. This means keeping things like body temperature, pH, and the balance of water and salts in the body within narrow limits, even when the outside conditions change. The body uses feedback mechanisms to do this, sensing a change, comparing it to a normal set point, and triggering responses to restore balance. For example, when you're hot, sweating and widening blood vessels help cool you down; when you're cold, shivering and conserving heat help raise your body temperature. Blood glucose is kept steady by hormones such as insulin and glucagon, and the kidneys help regulate water balance. The other terms describe different processes: metabolism covers all the chemical reactions that provide energy and build molecules; respiration is the cellular release of energy using oxygen; digestion is the breakdown of food in the digestive system.

5. What term describes a plant growth response in which the plant grows towards or away from light?

A. Phototrophism

B. Geotropism

C. Hydrotropism

D. Thigmotropism

Phototropism is the directional growth response to light. In shoots, light on one side causes auxin to accumulate on the shaded side, promoting more rapid cell elongation there and bending the stem toward the light. This is positive phototropism. If growth happens away from light, it's still phototropic behavior but in the opposite direction. The other terms describe responses to gravity (geotropism), water (hydrotropism), and touch (thigmotropism), not light.

6. 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.

7. Which heat transfer occurs primarily in fluids like air and water?

A. Conduction

B. Convection

C. Radiation

D. Evaporation

Convection is the main way heat moves through fluids like air and water. When part of the fluid is heated, it becomes less dense and rises, while cooler, denser fluid sinks to take its place. This sets up circulating currents that carry thermal energy through the liquid or gas, making heat transfer much more efficient than by direct molecular touch alone. Conduction does occur in fluids, but the circulation of warm and cool regions dominates the process. Radiation can transfer heat across a distance without a medium, but inside the fluid the bulk transfer happens via these moving currents. Evaporation involves changing a liquid to a gas and uses energy for the phase change, not the continuous transfer of heat through the fluid itself. So convection is the primary heat transfer mechanism in fluids.

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. An allele that is expressed in the phenotype whenever present describes which term?

A. Dominant

B. Recessive

C. Allele

D. Genotype

Dominant describes an allele whose effect on the phenotype is seen whenever that allele is present, even if the other chromosome has a different allele. In a heterozygous organism, the dominant allele determines the trait, masking the recessive one. Only if both copies are the recessive version does the recessive trait appear. For example, in many organisms the tall-height allele is dominant over the short-height allele, so a plant with one tall and one short allele grows tall. This is why the term described is dominant.

10. A network of interconnected food chains showing energy flow through part of the ecosystem is called what?

A. Food web

B. Food chain

C. Ecosystem

D. Habitat

Energy moves through ecosystems via feeding relationships, and a single line of who eats whom is a food chain. Real systems have many chains that overlap and interconnect because organisms often have multiple prey and predators. When those chains form a web of links, you get a food web that shows how energy flows through part of the ecosystem in many directions. An ecosystem is the broader system, including the physical environment; a habitat is the place where organisms live. So the term that best describes a network of interconnected food chains showing energy flow is food web.

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!