

Assessment and Qualifications Alliance (AQA) GCSE Physics Practice Exam (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. What is the process called when a substance changes from a liquid to a gas?**
 - A. Vaporization**
 - B. Condensation**
 - C. Evaporation**
 - D. Melting**
- 2. What is defined as the work done when a coulomb of charge passes between two points?**
 - A. Current**
 - B. Voltage**
 - C. Resistance**
 - D. Power**
- 3. What structure is formed by material in orbital motion around a massive central body, typically a star?**
 - A. Galaxy**
 - B. Accretion disc**
 - C. Planetary ring**
 - D. Star cluster**
- 4. What is an object that revolves around another object in space called?**
 - A. Moon**
 - B. Planet**
 - C. Satellite**
 - D. Asteroid**
- 5. What device is used to alter the voltage level of an alternating current?**
 - A. Inductor**
 - B. Transformer**
 - C. Capacitor**
 - D. Battery**

- 6. What tool is primarily used to measure angles?**
- A. Compass**
 - B. Ruler**
 - C. Protractor**
 - D. Caliper**
- 7. Which wire is most likely to be energized in an electrical circuit?**
- A. Neutral wire**
 - B. Live wire**
 - C. Earth wire**
 - D. Ground wire**
- 8. What is the purpose of a voltmeter?**
- A. To measure current**
 - B. To measure resistance**
 - C. To measure voltage**
 - D. To measure power**
- 9. Which type of moment is described as being exerted clockwise?**
- A. Static moment**
 - B. Dynamic moment**
 - C. Anticlockwise moment**
 - D. Clockwise moment**
- 10. What is the term for the process in which liquid water turns into water vapor?**
- A. Condensation**
 - B. Evaporation**
 - C. Freezing**
 - D. Precipitation**

Answers

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

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Explanations

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1. What is the process called when a substance changes from a liquid to a gas?

A. Vaporization

B. Condensation

C. Evaporation

D. Melting

Vaporization refers to the process where a substance transitions from a liquid state to a gaseous state. This occurs when the molecules within the liquid gain enough energy to break free from the bonds holding them together, leading to the formation of vapor. This process can happen in any part of the liquid and is primarily associated with the concept of boiling, where the temperature of the liquid reaches a point that allows for rapid vaporization throughout the volume of the liquid. Evaporation is a specific type of vaporization that occurs at the surface of a liquid at temperatures below its boiling point and can happen over a longer period, while boiling (a more general term for vaporization) happens throughout the liquid. Condensation, on the other hand, is the opposite process where gas turns into a liquid, and melting refers to the transition from solid to liquid. Thus, vaporization encompasses both evaporation and boiling, making it the correct choice for when discussing the general process of a liquid transforming into a gas.

2. What is defined as the work done when a coulomb of charge passes between two points?

A. Current

B. Voltage

C. Resistance

D. Power

The work done when a coulomb of charge passes between two points is termed as voltage. This concept refers to the electric potential difference between two points in an electric field. When a charge moves from one point to another, the work done to move that charge against an electric field is directly related to the voltage. Essentially, voltage measures how much energy is transferred per unit charge and is expressed in volts. In a circuit, when a charge moves through a component (like a resistor or a battery), the voltage indicates how much potential energy the charge loses or gains, relative to the work done by the electric field. This is a fundamental concept in understanding electric circuits and the behavior of electrical energy.

3. What structure is formed by material in orbital motion around a massive central body, typically a star?

- A. Galaxy
- B. Accretion disc**
- C. Planetary ring
- D. Star cluster

The correct answer is accretion disc. An accretion disc is a structure formed by the gravitational attraction of a massive central body, such as a star, which pulls in surrounding material. As this matter spirals inward, it accumulates in a disc shape due to its angular momentum. The motion of the material around the central body creates a rotating disc of gas, dust, and other particles. This structure is commonly found in various astronomical environments, including around young stars, black holes, and even in the formation of planetary systems. The material in the accretion disc can eventually lead to the formation of new celestial bodies as particles collide and coalesce. In contrast, a galaxy is a massive system consisting of stars, star clusters, gas, and dust bound together by gravity, while a planetary ring is a disc of particles and debris that orbits a planet, and a star cluster is a group of stars that are gravitationally bound to each other. Each of these structures involves different scales and contexts compared to an accretion disc, which specifically pertains to the motion of material around a central massive body.

4. What is an object that revolves around another object in space called?

- A. Moon
- B. Planet
- C. Satellite**
- D. Asteroid

An object that revolves around another object in space is termed a satellite. This term broadly includes both natural satellites, like moons, and artificial ones, such as human-made spacecraft. In this context, the essential characteristic of a satellite is its orbit around a larger body due to gravitational attraction. For example, the Moon is a natural satellite of Earth, while GPS satellites are artificial satellites that orbit Earth. This distinction as a satellite highlights the object's role in the gravitational system surrounding the planet or star it orbits. The other options, while related, do not encompass the full definition. Moons can be considered a type of satellite, but the term "satellite" applies to a broader category of orbiting objects. Planets are larger celestial bodies that also orbit stars but are not objects that revolve around other bodies in the same sense that satellites do. Asteroids, while they might orbit the Sun or a planet, are not defined by their revolving characteristics in the same way that satellites are. Hence, the designation of satellite is the most accurate choice for an object that revolves around another object in space.

5. What device is used to alter the voltage level of an alternating current?

- A. Inductor
- B. Transformer**
- C. Capacitor
- D. Battery

A transformer is the device that alters the voltage level of an alternating current (AC). It operates on the principle of electromagnetic induction, which allows it to step up (increase) or step down (decrease) the voltage of AC power. When alternating current flows through the primary coil of a transformer, it generates a changing magnetic field, which then induces a voltage in the secondary coil. The ratio of the number of turns in the primary and secondary coils determines whether the voltage is increased or decreased. Transformers are essential in power transmission systems, allowing electricity to be transmitted over long distances at high voltages, which reduces energy loss due to resistance in the wires. The ability to efficiently convert voltage levels makes transformers indispensable in electrical engineering and energy distribution. The other devices mentioned have different functions. An inductor stores energy in a magnetic field when an electric current passes through it. A capacitor stores energy in an electric field and is primarily used for smoothing out voltage fluctuation or filtering signals. A battery provides a constant direct current (DC) voltage rather than altering AC voltage levels.

6. What tool is primarily used to measure angles?

- A. Compass
- B. Ruler
- C. Protractor**
- D. Caliper

A protractor is specifically designed for measuring angles, typically in degrees. It is a semi-circular or circular tool that has a graduated scale marked with the angle measurements. The functionality of a protractor allows users to align one side of the angle with the baseline of the protractor, making it easy to read the measurement directly where the other side intersects the scale. This precision and tailored design highlight why it stands out as the primary tool for angle measurement. In contrast, a compass is used primarily for drawing arcs and circles and finding distances between points, while a ruler is utilized for measuring lengths or straight lines. A caliper, on the other hand, is best suited for measuring the depth and external or internal dimensions of an object, further distancing it from the task of angle measurement. These tools serve different purposes, making the protractor the appropriate choice for measuring angles.

7. Which wire is most likely to be energized in an electrical circuit?

- A. Neutral wire
- B. Live wire**
- C. Earth wire
- D. Ground wire

In an electrical circuit, the live wire is the one that carries the voltage from the power supply to the appliance. This wire is energized, meaning it has a high potential difference and can deliver electrical current, making it essential for the functioning of electrical devices. The live wire is typically insulated and is colored brown in UK wiring standards. The neutral wire provides a return path for the current back to the power supply and is normally at or close to ground potential, thus it is not energized in the same way as the live wire. The earth wire, often green and yellow, is a safety feature that redirects electrical current away from users in case of a fault, while the ground wire serves a similar purpose but might have different specific applications depending on the region. For these reasons, when identifying which wire is most likely to be energized within an electrical circuit, the live wire is the correct and most relevant choice.

8. What is the purpose of a voltmeter?

- A. To measure current
- B. To measure resistance
- C. To measure voltage**
- D. To measure power

A voltmeter is specifically designed to measure voltage, which is the potential difference between two points in an electrical circuit. It does this by connecting across the components in the circuit where the voltage needs to be measured. The measurement is typically expressed in volts. The voltmeter operates by using a high internal resistance to ensure that it does not draw significant current from the circuit, which could disturb the operation of the circuit and lead to inaccurate measurements. It's crucial to use the voltmeter correctly by placing it in parallel with the component being measured, as this configuration allows it to accurately assess the voltage across that component. Understanding the function of a voltmeter is foundational in electronics and physics, as voltage is a key parameter that influences how electrical circuits operate.

9. Which type of moment is described as being exerted clockwise?

- A. Static moment**
- B. Dynamic moment**
- C. Anticlockwise moment**
- D. Clockwise moment**

A moment is a measure of the rotational effect of a force applied to an object, and it can be described in terms of its direction. When a force causes an object to rotate in a clockwise direction around a pivot or axis, this is specifically referred to as a clockwise moment. In the context of moments, they can be categorized based on their rotational direction. A clockwise moment occurs when the force tends to turn the object in the same direction as the hands of a clock. This is crucial in many practical applications, such as understanding how levers work or in calculating torques in engineering. The other types mentioned do not describe this specific rotation. For instance, a static moment would typically refer to a moment that is not causing rotation, and an anticlockwise moment clearly refers to the opposite direction of rotation. Thus, when considering the description of a moment that is exerted clockwise, it directly corresponds to the term "clockwise moment."

10. What is the term for the process in which liquid water turns into water vapor?

- A. Condensation**
- B. Evaporation**
- C. Freezing**
- D. Precipitation**

The process in which liquid water turns into water vapor is known as evaporation. This occurs when molecules in a liquid gain enough energy to escape the liquid's surface and enter the gaseous state. Evaporation typically happens at temperatures below the boiling point and can occur at any temperature, as long as some molecules have enough energy to overcome the intermolecular forces holding them in the liquid. In various contexts, evaporation is crucial in the water cycle, playing a significant role in how water transitions from bodies of water, like lakes and oceans, into the atmosphere. This process allows for the continuous movement of water, contributing to weather patterns and the distribution of moisture in the environment.

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://aqa-gcse-physics.examzify.com>

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