

KEY STAGE 3 (KS3) PHYSICS PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://keystage3-physics.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

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

SAMPLE

1. What does Ohm's Law state?

- A. Power = Voltage $\times$ Current
- B. Voltage = Current $\times$ Resistance
- C. Energy = Work $\times$ Time
- D. Resistance = Voltage $\times$ Current

2. Which statement about friction is correct?

- A. It always increases speed
- B. It only acts on solid objects
- C. It aims to resist motion
- D. It applies only when objects are at rest

3. What type of energy do light bulbs produce?

- A. Heat energy
- B. Sound energy
- C. Light energy
- D. Kinetic energy

4. What do we call the energy stored in an object due to its position?

- A. Kinetic energy
- B. Mechanical energy
- C. Potential energy
- D. Thermal energy

5. What does the angle of incidence measure?

- A. The angle between the reflected ray and the normal.
- B. The angle between the incident ray and the normal.
- C. The angle at which light travels through a medium.
- D. The angle that indicates how much light is absorbed.

6. What is the approximate speed of light?

- A. 150,000,000 m/s
- B. 300,000,000 m/s
- C. 450,000,000 m/s
- D. 600,000,000 m/s

7. What does pitch measure?

- A. The volume of the sound
- B. The quality of sound
- C. How high or low the sound is
- D. The duration of the sound

8. What happens to the resistance when more resistors are added in series?

- A. It decreases
- B. It stays the same
- C. It increases
- D. It becomes zero

9. In what path does light travel?

- A. In a circular path
- B. In a zigzag pattern
- C. In a straight line
- D. In a curved path

10. What is the scientific term for the amount of thermal energy needed to change the temperature of 1 kg of a substance by 1°C?

- A. Specific heat capacity
- B. Thermal conductivity
- C. Latent heat
- D. Celsius coefficient

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What does Ohm's Law state?

- A. Power = Voltage $\times$ Current
- B. Voltage = Current $\times$ Resistance**
- C. Energy = Work $\times$ Time
- D. Resistance = Voltage $\times$ Current

Ohm's Law states that the voltage across a conductor is directly proportional to the current flowing through it, provided the temperature remains constant. This relationship can be expressed mathematically as Voltage = Current $\times$ Resistance. In this context, "voltage" refers to the electric potential difference, "current" refers to the flow of electric charge, and "resistance" is a measure of how much the conductor opposes the flow of current. This fundamental principle forms the basis for understanding electrical circuits and is essential for calculating how components in a circuit relate to each other. Understanding this law is critical for analyzing circuits; it allows students to determine how changing one variable (like current or resistance) will affect the others (like voltage). The other options do not accurately represent Ohm's Law: the power equation relates power to voltage and current but does not reflect the relationship of Ohm's Law, and both energy and resistance equations presented do not represent the direct relationship defined by Ohm's Law.

2. Which statement about friction is correct?

- A. It always increases speed
- B. It only acts on solid objects
- C. It aims to resist motion**
- D. It applies only when objects are at rest

Friction is a force that acts at the interface between two surfaces in contact, and it plays a crucial role in the motion of objects. The correct statement is that friction aims to resist motion. This means that when two surfaces slide against each other or are in contact and an attempt is made to move one relative to the other, friction opposes this movement. For instance, when you try to push a heavy box across the floor, friction between the box and the floor works against your push, making it harder to move the box. This resistance is important for various reasons; for example, it allows vehicles to grip the road surface, preventing them from sliding uncontrollably. The other statements do not accurately describe the nature of friction. It does not always increase speed, as its primary role is to oppose motion. While friction generally acts on solid objects, it can also be present in fluids; thus, saying it only acts on solid objects is too limiting. Friction is not restricted to instances when objects are at rest; it can occur whether the objects are moving or stationary, such as when an object is sliding down a slope.

3. What type of energy do light bulbs produce?

- A. Heat energy
- B. Sound energy
- C. Light energy**
- D. Kinetic energy

Light bulbs primarily produce light energy as they convert electrical energy into light. When electricity flows through the filament of an incandescent bulb or through gas in a fluorescent bulb, the energy is transformed into light radiation, which is what we see as illumination. This process is essential for lighting homes, streets, and other areas. While some light bulbs also generate heat due to inefficiencies in the conversion process, the main purpose of a light bulb is to provide light, making light energy the most accurate answer in the context of what they are designed to do.

4. What do we call the energy stored in an object due to its position?

- A. Kinetic energy
- B. Mechanical energy
- C. Potential energy**
- D. Thermal energy

The energy stored in an object due to its position is known as potential energy. This form of energy is associated with the height an object is above the ground and the effects of gravity. For example, when you lift a ball higher off the ground, it gains potential energy due to its elevated position. If the ball is then dropped, this stored energy is converted into kinetic energy as it falls. Potential energy can also arise from other positions in different contexts, such as elastic potential energy in a stretched spring, but the key aspect is that it is energy related to the object's position or configuration. This makes potential energy distinct from kinetic energy, which is the energy of motion, and thermal energy, related to the temperature and internal energy of a substance. Mechanical energy refers more broadly to the sum of both kinetic and potential energies in a system. Thus, potential energy is the correct term for the energy related to an object's position.

5. What does the angle of incidence measure?

- A. The angle between the reflected ray and the normal.
- B. The angle between the incident ray and the normal.**
- C. The angle at which light travels through a medium.
- D. The angle that indicates how much light is absorbed.

The angle of incidence specifically measures the angle formed between the incident ray (the incoming ray of light) and the normal line, which is an imaginary line that is perpendicular to the surface at the point of incidence. This concept is fundamental in understanding how light interacts with surfaces, especially when looking at reflections and how angles affect that process. The normal is essential because it provides a reference point to define the angles involved in reflection and refraction. For example, when light strikes a mirror, the angle of incidence is critical for applying the law of reflection, which states that the angle of incidence is equal to the angle of reflection. Understanding this concept helps clarify other aspects of light behavior, such as when light enters a new medium, where the angle of incidence can impact refraction, but that would involve different terminology and details not directly related to the angle of incidence itself.

6. What is the approximate speed of light?

- A. 150,000,000 m/s
- B. 300,000,000 m/s**
- C. 450,000,000 m/s
- D. 600,000,000 m/s

The speed of light in a vacuum is approximately 300,000,000 meters per second. This value is fundamental in physics and plays a critical role in various theories and calculations, such as Einstein's theory of relativity. The speed of light is not only the fastest speed at which information can travel but also acts as a universal constant, commonly represented as 'c.' The significance of this speed is evident in many areas of physics, including optics and electromagnetism, where it helps to explain how light behaves and interacts with matter. Such a high speed also illustrates why light can travel from the Sun to the Earth in about 8 minutes, covering a distance of approximately 93 million miles. Therefore, it reinforces the understanding of the vast distances in space and the behavior of electromagnetic waves.

7. What does pitch measure?

- A. The volume of the sound
- B. The quality of sound
- C. How high or low the sound is**
- D. The duration of the sound

Pitch measures how high or low a sound is. It is determined by the frequency of the sound wave; higher frequency waves produce higher pitches, while lower frequency waves create lower pitches. For example, when you play a flute, the sound produced is high in pitch, whereas a tuba typically produces lower-pitched sounds. Understanding pitch is crucial in music and sound recognition, as it helps in distinguishing between different musical notes and identifying the characteristics of various sounds. Other aspects like volume, quality, and duration pertain to different properties of sound: volume deals with loudness, quality refers to timbre or color of sound, and duration measures how long a sound lasts.

8. What happens to the resistance when more resistors are added in series?

- A. It decreases
- B. It stays the same
- C. It increases**
- D. It becomes zero

When more resistors are added in series, the overall resistance increases. This occurs because in a series circuit, the current has only one path to follow, and each resistor adds to the total opposition to the flow of electric current. The resistance of the entire circuit is the sum of the individual resistances of each resistor. Mathematically, if you have two resistors with resistances R_1 and R_2 , the total resistance (R_{total}) in series can be calculated as $R_{\text{total}} = R_1 + R_2$. This additive property means that as you continue to add more resistors in series, the total resistance continues to grow. In contrast, if resistors were added in parallel, the total resistance would decrease, but since the question specifies series, the correct understanding of how series circuits operate leads us to the conclusion that the resistance indeed increases with more resistors added in series.

9. In what path does light travel?

- A. In a circular path
- B. In a zigzag pattern
- C. In a straight line**
- D. In a curved path

Light travels in a straight line when it moves through a uniform medium, such as air or a vacuum. This principle is rooted in the nature of light as an electromagnetic wave; it moves in predictable paths unless it encounters a change in medium or is influenced by gravitational fields or other forces. This straight-line motion is observable in various phenomena, such as the way shadows are formed or how we see objects. For example, when you hold an object in front of a light source, the light travels in a straight path from the source, creating a shadow of the object on the surface behind it. In contrast, other options suggest different paths. A circular path would imply that light is bending continuously around a loop, which is not the case in free space. Zigzag patterns would suggest interruptions in its motion, which doesn't typically happen under normal conditions. A curved path can occur in specific circumstances, like when light passes through a lens or is affected by gravitational fields, but it does not represent the default behavior of light in a uniform medium. Thus, the correct answer highlights the fundamental behavior of light traveling in a straight line under typical conditions.

10. What is the scientific term for the amount of thermal energy needed to change the temperature of 1 kg of a substance by 1°C?

A. Specific heat capacity

B. Thermal conductivity

C. Latent heat

D. Celsius coefficient

The scientific term for the amount of thermal energy needed to change the temperature of 1 kg of a substance by 1°C is specific heat capacity. This concept is essential in understanding how different materials respond to heat. Specific heat capacity is a physical property that indicates how much energy is required to raise the temperature of a material. For example, water has a high specific heat capacity, meaning it requires a significant amount of thermal energy to increase its temperature, which plays an important role in climate and weather patterns. In contrast, thermal conductivity refers to a material's ability to conduct heat, which is different from how much thermal energy is needed to change its temperature. Latent heat pertains to the energy required for a phase change (like solid to liquid or liquid to gas) at a constant temperature, and the term Celsius coefficient is not standard in scientific contexts related to heat. Hence, specific heat capacity is the correct terminology in this scenario.

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://keystage3-physics.examzify.com>

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

SAMPLE