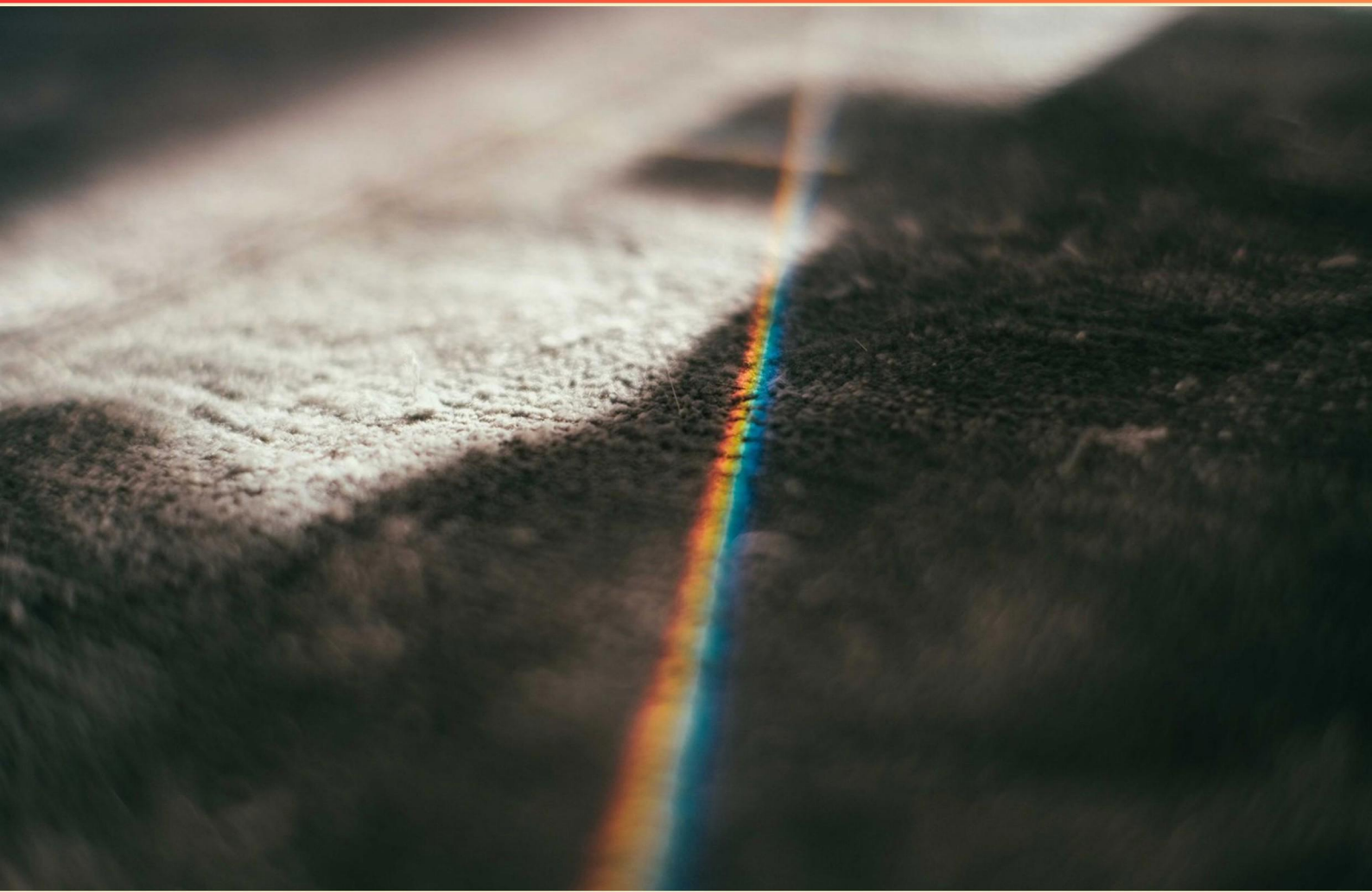


ALBERTA GRADE 8 SCIENCE – LIGHT AND OPTICAL SYSTEMS PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://albertagr8sciencelightopticalsys.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 is the function of the cornea?

- A. The hole that lets light into the eye
- B. To give the eye shape
- C. To absorb excess light rays
- D. The transparent jellylike tissue filling the eyeball behind the lens

2. Which term describes the pupil?

- A. The jellylike tissue behind the lens
- B. The light-sensitive cells that respond to color
- C. The hole that lets light into the eye
- D. The tough white outer coat of the eyeball

3. Which statement describes reflection?

- A. Light can be reflected
- B. Light can only be absorbed
- C. Light cannot interact with surfaces
- D. Light travels through walls

4. Which statement defines the angle of incidence in reflection?

- A. The angle between the incident ray and the normal line.
- B. The angle between the incident ray and the surface.
- C. The angle between the reflected ray and the normal line.
- D. The angle between the reflected ray and the surface.

5. In a refracting telescope, what is the objective lens?

- A. A concave lens
- B. A plano-convex lens
- C. A convex lens that collects and focuses light
- D. A concave mirror

6. What does a concave lens do to light rays?

- A. Create a real image
- B. Diverge away
- C. Converge to a focal point
- D. Reflect light

- 7. Which part of the eye adjusts pupil size to regulate light intake?**
- A. Retina
 - B. Iris
 - C. Lens
 - D. Pupil
- 8. The middle layer of the eye that absorbs excess light.**
- A. Choroid
 - B. Retina
 - C. Iris
 - D. Lens
- 9. Where do light rays cross after passing through a converging lens?**
- A. Normal line
 - B. Index of refraction
 - C. Angle of reflection
 - D. Focal point
- 10. The opening in the iris that regulates the amount of light entering the eye.**
- A. Iris
 - B. Choroid
 - C. Optic nerve
 - D. Pupil

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is the function of the cornea?

- A. The hole that lets light into the eye
- B. To give the eye shape**
- C. To absorb excess light rays
- D. The transparent jellylike tissue filling the eyeball behind the lens

The cornea is the clear front surface of the eye that helps shape the eye and begins focusing light by bending it. Among the options, the one about giving the eye its shape fits best because the cornea is part of the eye's outer layer that contributes to the eye's curved front, which helps maintain the eye's overall shape. The other options refer to features that aren't the cornea: the hole that lets light in is the pupil, the cornea doesn't absorb light like a filter, and the jellylike tissue behind the lens is the vitreous humor. So, giving the eye its shape is the choice that aligns most closely with the cornea's role in the eye's structure.

2. Which term describes the pupil?

- A. The jellylike tissue behind the lens
- B. The light-sensitive cells that respond to color
- C. The hole that lets light into the eye**
- D. The tough white outer coat of the eyeball

Think about how light gets into the eye. The pupil is the opening in the center of the iris that light passes through to reach the inside of the eye. It acts like a doorway, opening wider in dim light and narrowing in bright light to control how much light reaches the retina. The other descriptions refer to different parts: behind the lens is the jellylike vitreous humor, the light-detecting cells are the rods and cones in the retina, and the tough white outer coat is the sclera. So the term describes the hole that lets light into the eye.

3. Which statement describes reflection?

- A. Light can be reflected**
- B. Light can only be absorbed
- C. Light cannot interact with surfaces
- D. Light travels through walls

Reflection is when light hits a surface and bounces off instead of being absorbed or passing through. When light meets a smooth surface, the direction it comes in from (the angle of incidence) is equal to the direction it leaves (the angle of reflection), so the light changes direction in a predictable way. The statement that light can be reflected captures what reflection is. The other ideas don't describe reflection: light can be absorbed, light does interact with surfaces, and most walls are opaque and don't let light pass through.

4. Which statement defines the angle of incidence in reflection?

- A. The angle between the incident ray and the normal line.
- B. The angle between the incident ray and the surface.
- C. The angle between the reflected ray and the normal line.
- D. The angle between the reflected ray and the surface.

The angle of incidence is the angle formed between the incoming light ray and the normal line to the surface at the point where the light hits. The normal is a line drawn perpendicular to the surface. This way of measuring uses the normal because the law of reflection states that the angle of incidence equals the angle of reflection, and both are measured with respect to the normal. The angle between the incident ray and the surface would be the complement of the incidence angle, not the standard measure. The angle between the reflected ray and the normal is the angle of reflection, not the incidence. So the statement describing the angle between the incoming ray and the normal is the correct one.

5. In a refracting telescope, what is the objective lens?

- A. A concave lens
- B. A plano-convex lens
- C. A convex lens that collects and focuses light
- D. A concave mirror

The main idea is that the objective lens in a refracting telescope must collect light from a distant object and form a real image by converging the incoming light. A convex lens does this because its outward-curving surfaces bend parallel rays toward each other, causing them to meet at the focal point and create a real image at the focal plane. That image is then magnified by the eyepiece for the observer. If you used a concave lens, the rays would diverge instead of converging, so a real image wouldn't form in the expected location. A plano-convex lens is still a convex lens with one flat side, so it can converge light, but the essential function of the objective is to collect and focus light, which a convex lens does. A concave mirror isn't a lens at all and belongs to a different telescope type.

6. What does a concave lens do to light rays?

- A. Create a real image
- B. Diverge away
- C. Converge to a focal point
- D. Reflect light

Light rays through a concave lens spread apart, or diverge. The lens is thinner in the center than at the edges, so as rays pass through it they bend outward, making parallel rays appear to originate from a virtual focal point on the same side of the lens. That divergence means the lens doesn't form a real, converging image by itself; instead, it usually produces a virtual, upright image. It also doesn't reflect light—that would be something a mirror does. So the correct idea is that a concave lens causes light to diverge.

7. Which part of the eye adjusts pupil size to regulate light intake?

- A. Retina
- B. Iris**
- C. Lens
- D. Pupil

The iris is the part that adjusts pupil size. It contains smooth muscle that acts like a camera diaphragm to change the diameter of the pupil, the opening in the center of the iris. In bright light, the circular muscles contract to make the pupil smaller, limiting light and protecting the retina. In dim light, the radial muscles pull the pupil open, allowing more light in. The pupil itself is just the opening; it doesn't actively adjust on its own. The retina detects light, and the lens helps focus it, but the iris is what regulates how much light enters the eye.

8. The middle layer of the eye that absorbs excess light.

- A. Choroid**
- B. Retina
- C. Iris
- D. Lens

The middle layer of the eye most important for absorbing excess light is the pigmented, vascular tissue called the choroid. It sits between the sclera and the retina and contains dark pigment that absorbs stray light, preventing reflections and glare inside the eye so the image stays sharp. It also ships blood to nourish the retina. The iris controls how much light enters by changing pupil size, but its main role isn't absorbing excess light. The lens focuses light onto the retina and doesn't absorb much light. The retina is the light-detecting layer at the back of the eye, not primarily responsible for soaking up stray light.

9. Where do light rays cross after passing through a converging lens?

- A. Normal line
- B. Index of refraction
- C. Angle of reflection
- D. Focal point**

When light passes through a converging lens, parallel rays bend toward the optical axis and meet at a single point on the opposite side. That meeting point is the focal point, a specific location along the axis where rays from objects at infinity converge after refraction. The other terms don't describe this behavior: the normal line is just a surface-perpendicular reference, the index of refraction is a property of the material, and the angle of reflection relates to bouncing off a surface rather than where refracted rays cross.

10. The opening in the iris that regulates the amount of light entering the eye.

- A. Iris
- B. Choroid
- C. Optic nerve
- D. Pupil**

Light entering the eye is controlled by the pupil, the opening in the iris. The iris is the colored part around the pupil and uses two sets of muscles to adjust this opening: the dilator muscles widen it in dim light to let more light in, while the sphincter muscles narrow it in bright light to reduce light. This adjustment helps protect the retina from glare and allows you to see in different lighting. The choroid is a vascular layer that supplies nutrients, and the optic nerve carries visual information to the brain, but neither controls this opening. So the opening through which light passes is the pupil.

SAMPLE

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://albertagr8sciencelightopticalsys.examzify.com>

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

SAMPLE