



## Unit 3 – Light and Optical Systems

Complete each of the following questions, relating to the specific learner outcomes, covered this year in Grade 8. The questions in this review reflect what you should have mastered and will be tested on in the **Final Achievement Exam**. The answers will be covered in class.

### Part 1 – Sources of Light

Describe and give examples of **natural** and **artificial** light (p.179-183)

<u>Natural Light</u>	<u>Artificial Light</u>

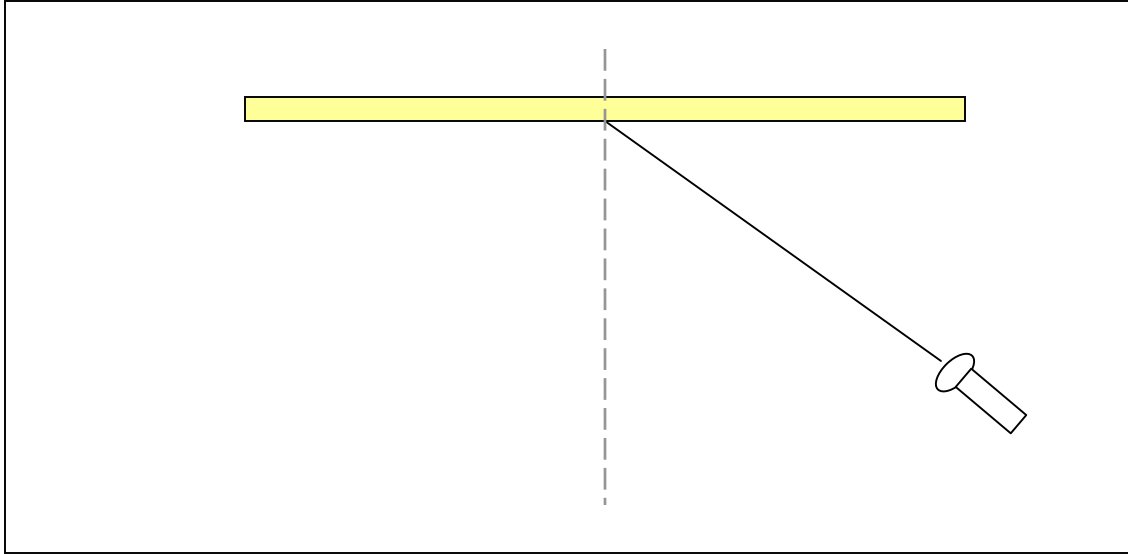
How is the cost of lighting calculated? (p.184) (Give an example)

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Know how to draw and label a **ray diagram** (p.185)



## **Part 2 – Basic Principles of Light**

What is light (p.176)?

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What are the basic principles of light (p.177-178)?

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## **Part 3 – Reflection**

Give an **operational definition** for reflection (p.188)

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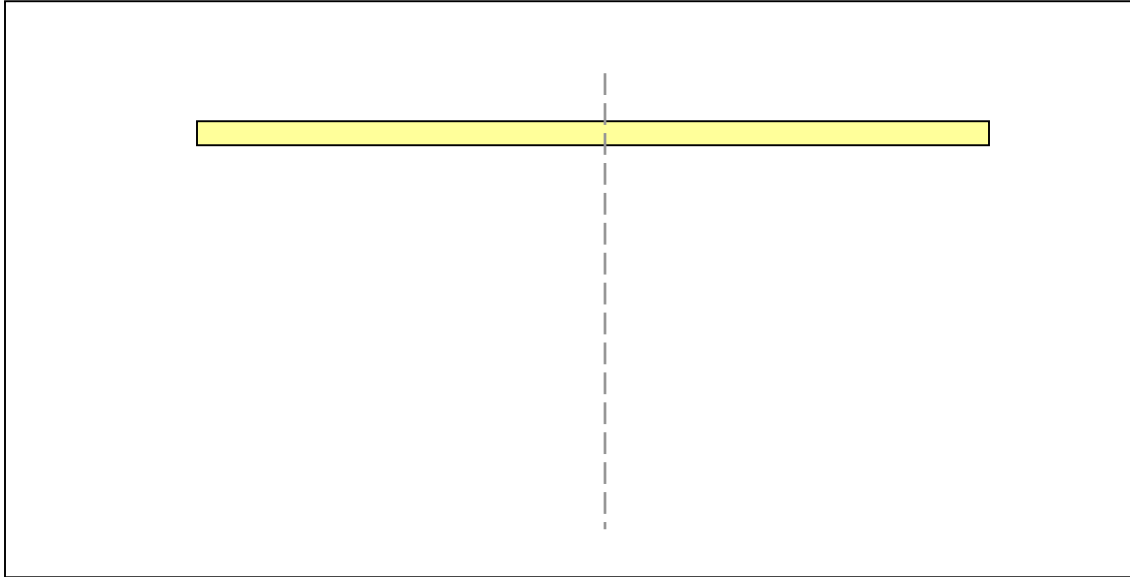
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State the **Law of Reflection** (p.194)

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Draw and label a diagram to show the **Law of Reflection** (p 194)



How is an **image** formed in a mirror? (p.194)

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How is this Law of Reflection **applied in everyday life**? (p.198-199)

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What is **fiber optics**?

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## Part 4 – Refraction

Give an operational definition for refraction (p.200)

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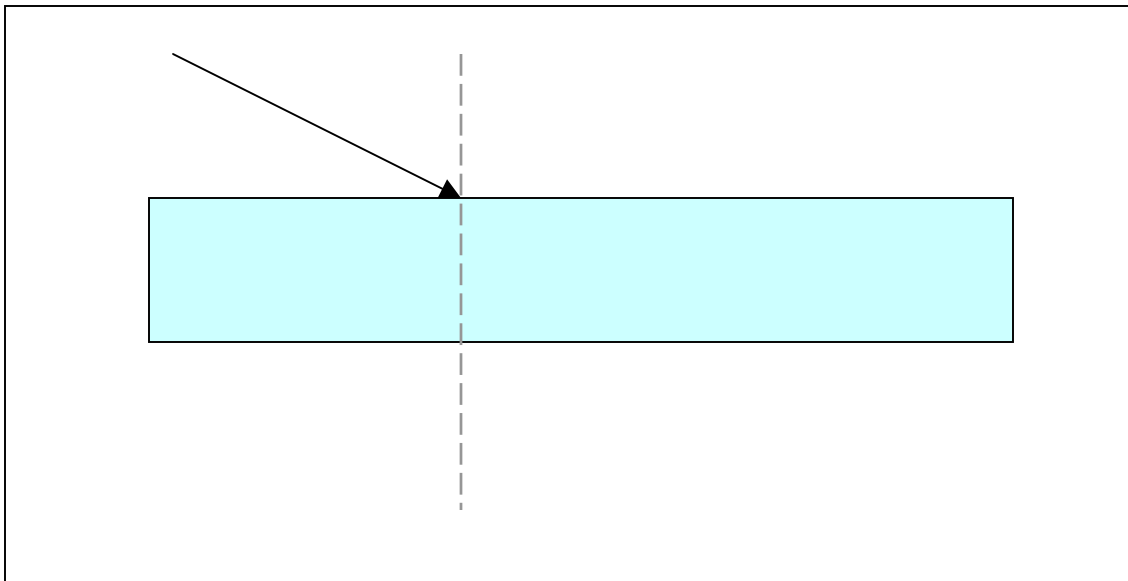
State the Law of Refraction (p.204)

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Draw and label a diagram to show the Law of Refraction (p 204)



## Part 5 – Lenses and Mirrors

Describe the difference between **concave** and **convex** lenses? (p.208)

<u>Concave</u>	<u>Convex</u>

What happens to light when it passes through a lens? (p.209)

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How does your eye form an image? (p.210)

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Identify the similarities between your eye and a camera.

<u>Eye</u>	<u>Camera</u>

**Differences** between your eye and a camera

<u>Eye</u>	<u>Camera</u>

What is accommodation? (p.215)

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What is a blind spot? (p.217)

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**Part 6 – Extending Vision – Binoculars - Telescopes - Microscopes**

Describe the difference between a reflecting and a refracting telescope (p.221)

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How are prisms used in binoculars? (p.223)

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How has the development of the microscope and the telescope lead to increasing scientific knowledge? (p.224)

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**Part 7 – The Behavior of Light**

How is wavelength determined?

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Draw a wavelength model of light and label the crest, trough, wavelength and amplitude. (p.238)

