



# 3055 BA SANGAM COLLEGE

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## WORKSHEET 22

School: Ba Sangam College

Year/level: 10

Subject: Basic Science

NAME: \_\_\_\_\_

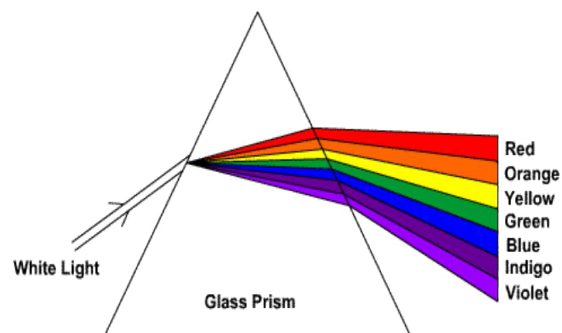
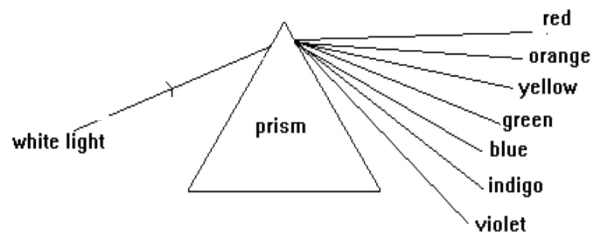
Strand 3	Energy
Sub Strand 3.1	Energy Source and Transfer
Content Learning Outcome	Investigate the behavior of light passing through lenses and prisms and relate this to their uses and how they are cared

### Lesson Notes – Dispersion of Light

- The light rays from the sun consist of seven different colors – red, orange, yellow, green, blue, indigo and violet (ROYGBIV)
- If a ray of light passes through a prism, the light splits into a range of colours. The effect is called **dispersion** and the colour range is known as a **spectrum**.

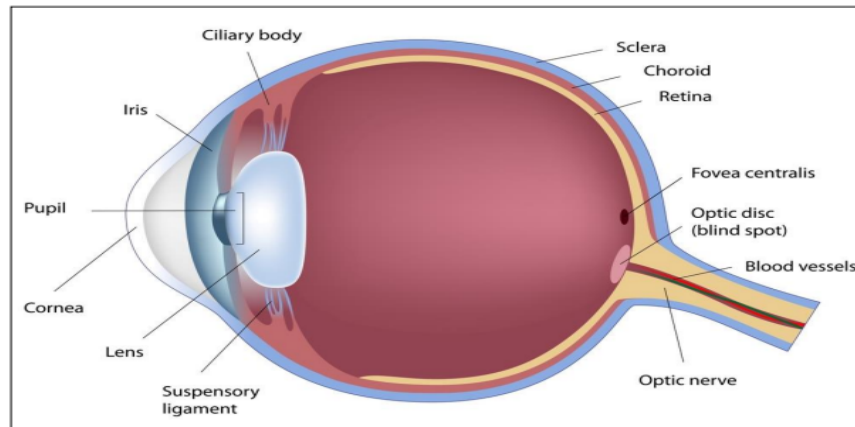
#### Example

When a ray of light enters a glass block, it bends towards the normal [fast medium to slow medium] and as it leaves the glass block, it bends away from the normal [slow medium to fast medium].

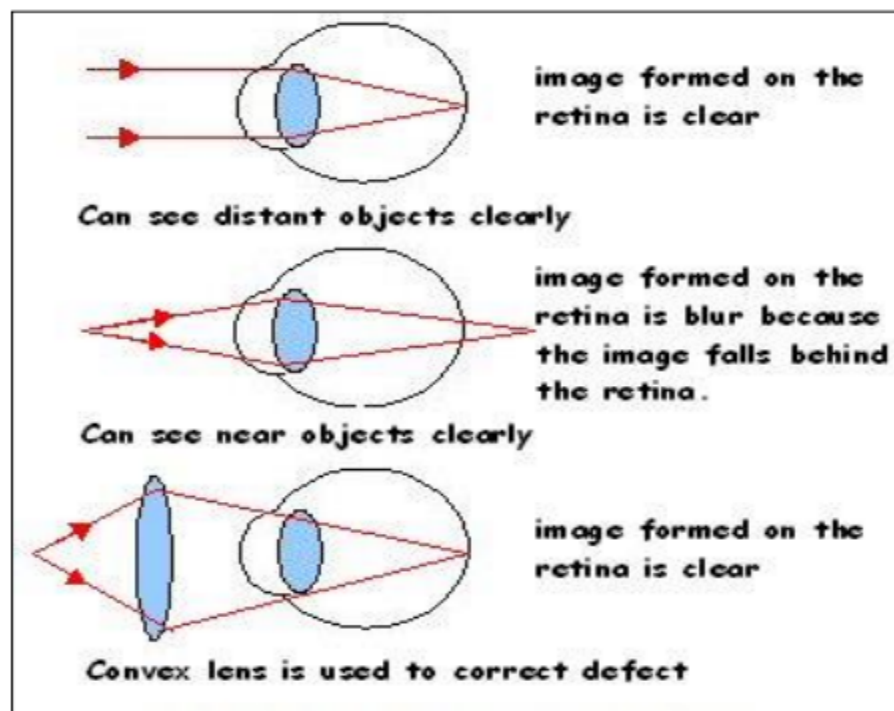


### Long Sightedness and Short Sightedness

## The Human Eye

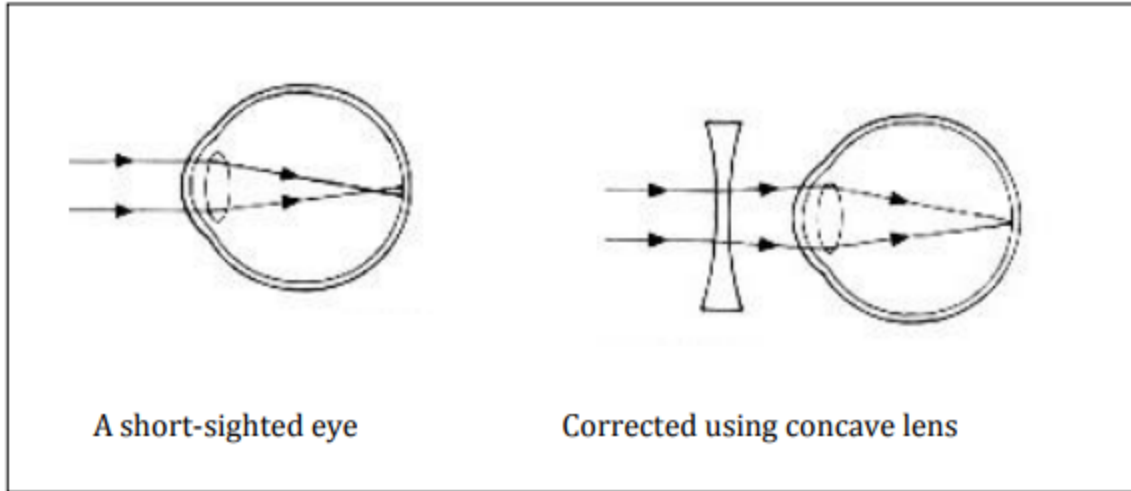


- As people get older, they find it difficult to focus on close objects.
- This is caused by the eye muscles around the lens becoming weaker with age. The lens also becomes harder, and cannot change shape so easily.
- People with this problem are said to be **long-sighted** (or far-sighted). **They cannot see close objects clearly.**
- The eye-ball is too short for the lens system.
- Long-sighted people cannot focus the image on the retina. It focuses behind the retina. The image appears all 'fuzzy' or 'blurry' because it is not in focus.



## Short sightedness

- Some eyes focus on the image in front of the retina. People with this fault are said to be **short-sighted**. They cannot see distant objects clearly and the eye-ball is too long for the lens system.
- To correct the fault, spectacles using diverging lenses (concave lens) are worn.



**Exercise**

1. Which colour does a prism refract (bend) the most?

\_\_\_\_\_

(1 mark)

2. Which colour does a prism refract the least?

\_\_\_\_\_

(1 mark)

2. Describe the problem with people who are said to be long sighted and state how the problem can be solved

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 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

( 3 marks)

TOTAL: \_\_\_\_\_/5