

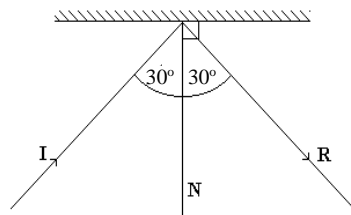
S2 Science
Physics 3
Light

Pupil Summary

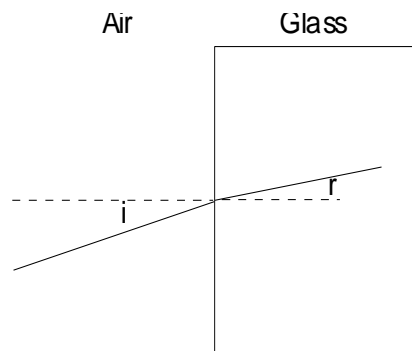
Level Three
SCN 3-11a and 3-11b



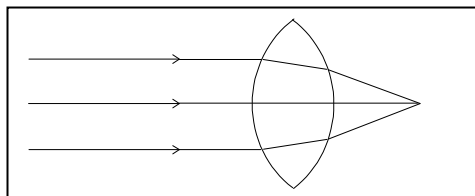
- state that light travels in straight lines.
- state that the **angle of incidence** is equal to the **angle of reflection**
- Be able to complete a diagram to show the path taken by a ray of light striking a mirror
- Be able to correctly identify the **Normal Line**, **Incident Ray** and **Reflected Ray** in any Line Diagram.



- state that light **refracts** (changes direction) when it passes from one material to another.

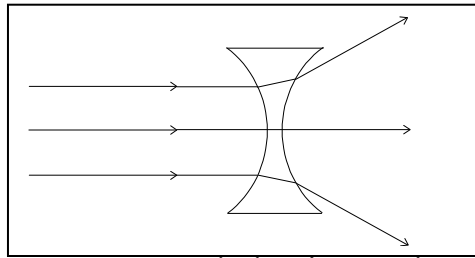


- describe an experiment to show the refraction of light.
- State that **Convex** lenses causes light rays to converge (come together).

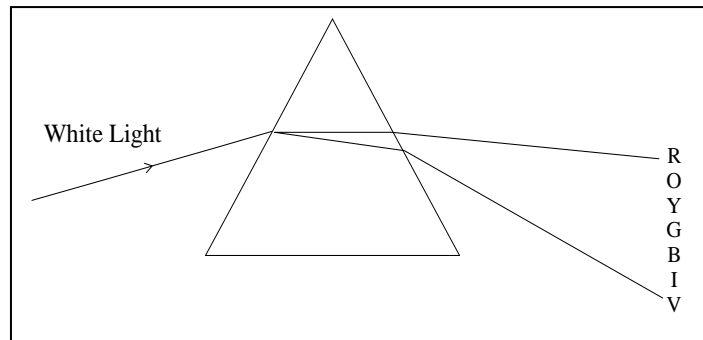


- State that the point where the rays come together is called the **focus**.

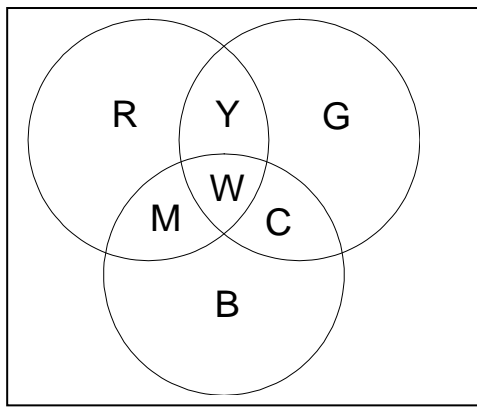
- State that **Concave** lenses cause light rays to diverge (spread out).



- State that the more curved the lens, the greater the change in the direction of the light ray. (***The fatter the Lens, the more it bends***)
- Give examples of uses of lenses to include **camera, binoculars and magnifying glass**
- state that a *prism can be used to refract light.*
- Complete a diagram to show the path taken by a ray of red, green or blue light refracted by a prism. How much bending does each colour of light experience.
- describe the pattern produced when white light passes through a prism.



- explain the spectrum in terms of different colours being refracted by different amounts.
- state that a rainbow is the result of sunlight being refracted by water droplets.
- state that white light consists of **red, orange, yellow, green, blue, indigo and violet. (ROYGBIV)**
- state that the three **Primary Colours** for mixing light are red, green and blue.
- describe the effect of mixing primary colours of light.



- state that a filter will only allow certain colours of light to pass through.
- describe the effect of primary colour filters on white light.
- explain why using two different primary colour filters stops all transmission of light.
- give two examples of filters in everyday life - like disco lighting or at a show or concert.
- state that we see objects because of the light reflected from them.
- explain the colour of an object illuminated by white light in terms of the absorption and reflection.
- explain the appearance of an object illuminated by different colours of light.
- **Describe two applications of how invisible radiation is used in medicine** - like heat (infrared) being used to treat sore muscles; and ultraviolet being used to help certain skin conditions such as acne.
- **Describe two applications of how invisible radiation is used in industry** - such as heat (infrared) being used to weld metal or cook food; and ultraviolet being used for security on electrical goods.
- Relate heat rays to infrared and explain that these can be reflected or refracted like light.
- Describe how *ultraviolet radiation can be dangerous to humans* - it can cause skin cancer.
- Describe how to protect humans from dangerous ultraviolet rays- sunscreen, avoid the sun during midday etc.