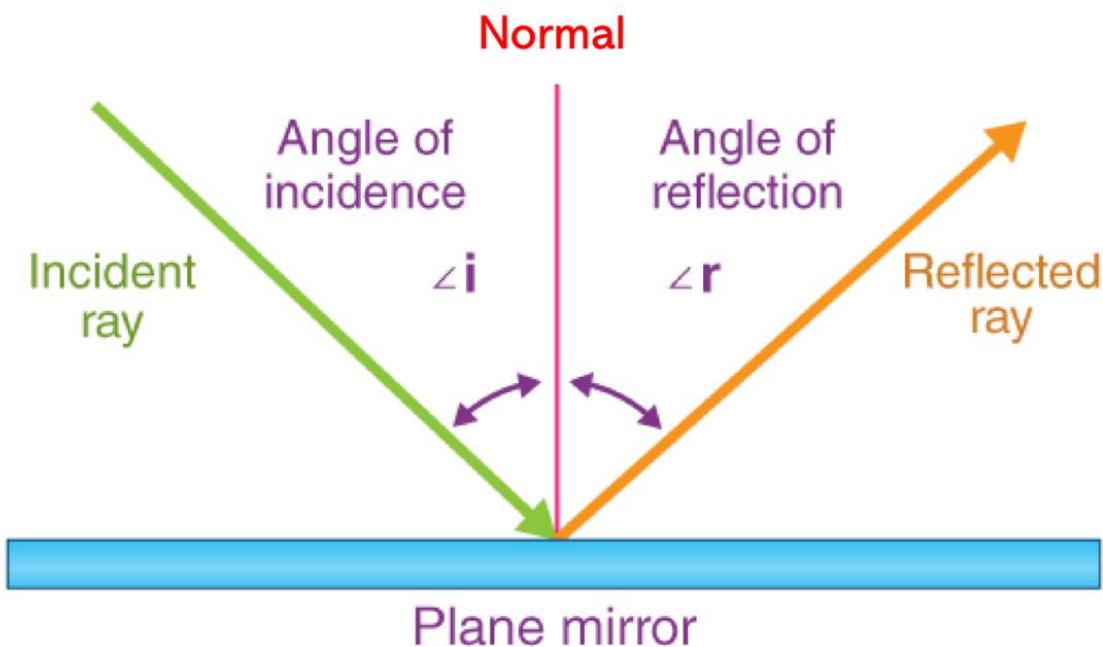
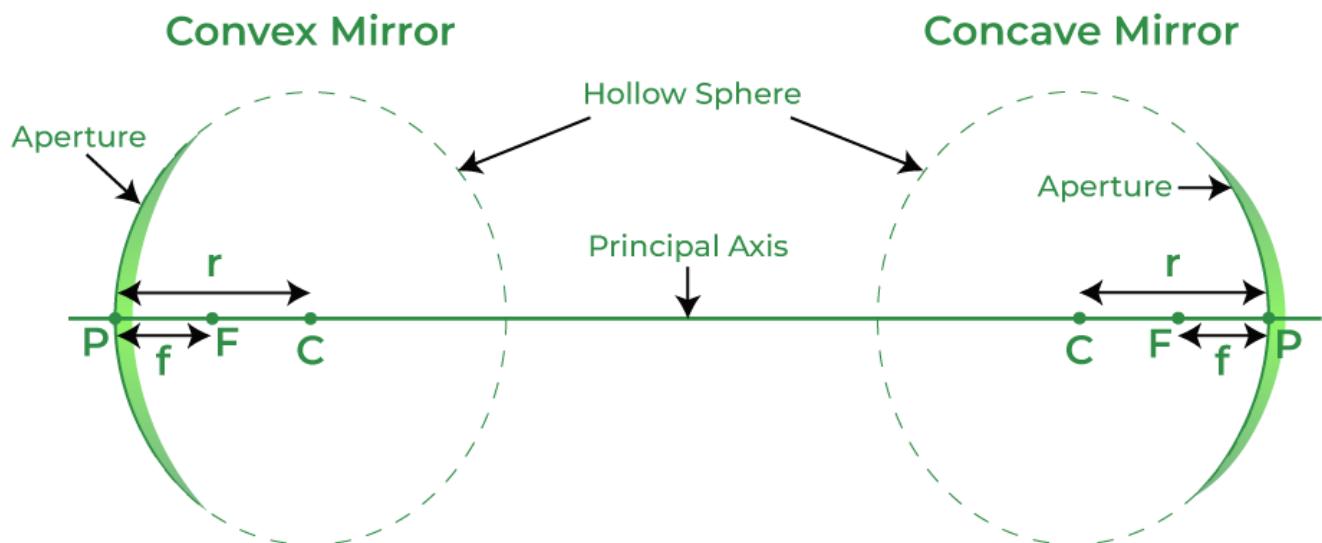


Physics Diagrams

1) Light ray on Plane Mirror



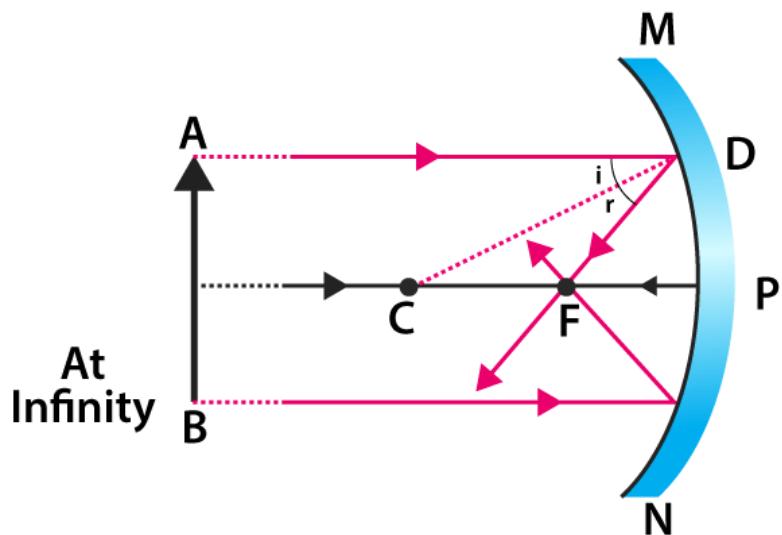
2) Spherical Mirror



Here, F = Focal Point ; C = Center of Curvature ;
 f = Focal Length ; r = Radius of Curvature ;
 P = Pole

CONCAVE MIRROR

1) Object placed at Infinity



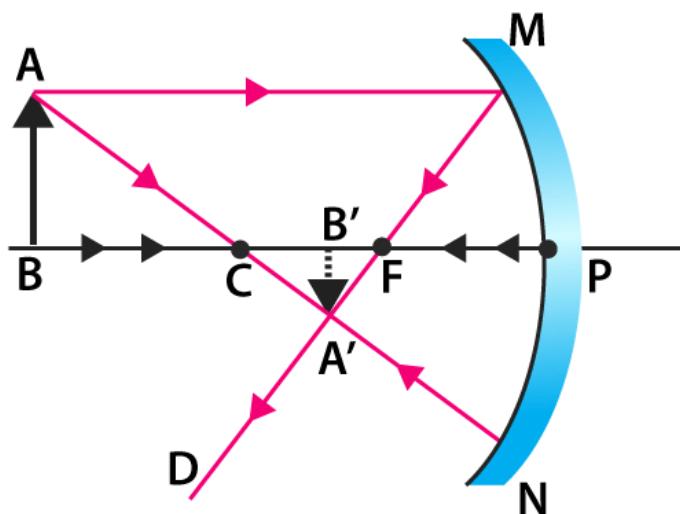
Image

Position – At 'F'

Nature – Real, Inverted

Size – Very Small

2) Object placed behind Center of Curvature



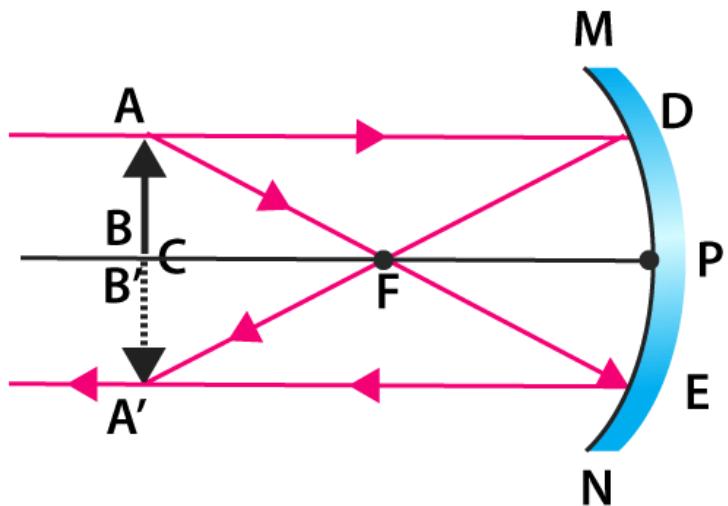
Image

Position – Between 'F' and 'C'

Nature – Real, Inverted

Size – Small

3) Object placed at Centre of Curvature



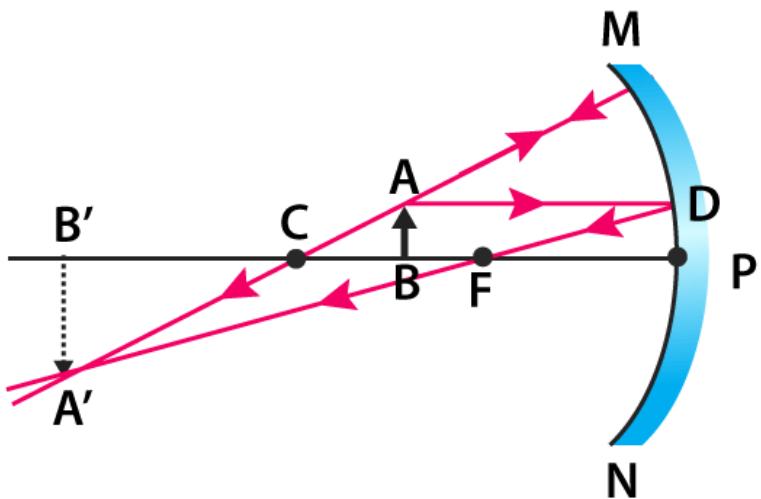
Image

Position – At ‘C’

Nature – Real, Inverted

Size – Same Size

4) Object placed between Focus and Centre of Curvature



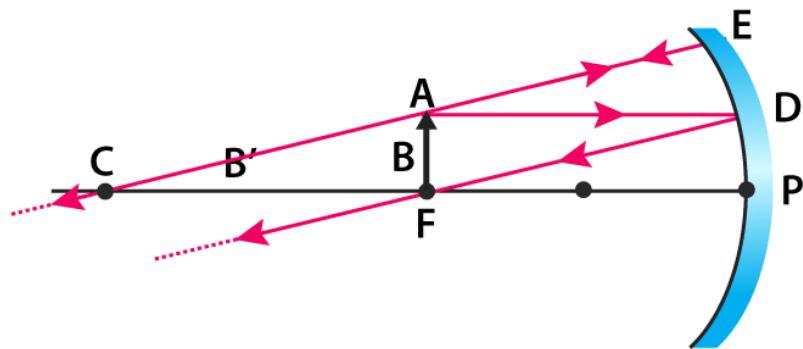
Image

Position – Beyond ‘C’

Nature – Real, Inverted

Size – Big Size

5) Object placed at Focus



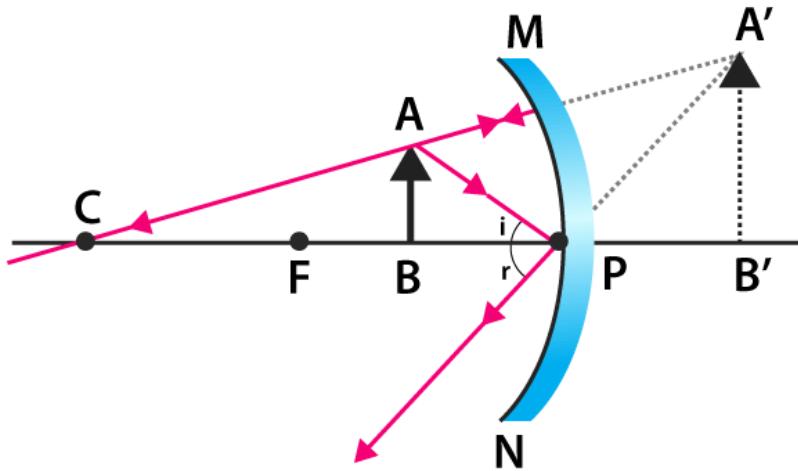
Image

Position – **At Infinity**

Nature – **Real, Inverted**

Size – **Very Big Size**

6) Object placed between Focus and Pole



Image

Position – **Behind Mirror**

Nature – **Virtual, Erect**

Size – **Big Size**

Position of Object	Position of Image	Size of Image	Nature of Image
<u>At Infinity</u>	At the focus F	Very Small	Real and Inverted
<u>Beyond C</u>	Between F and C	Small	Real and Inverted
<u>At C</u>	At C	Same Size	Real and Inverted
<u>Between C and F</u>	Beyond C	Big	Real and Inverted
<u>At F</u>	At Infinity	Very Big	Real and Inverted
<u>Between F and P</u>	Behind mirror	Big	Virtual and Erect

Uses of Concave Mirror -

- 1) Shaving mirror, torch, dentists, solar furnace



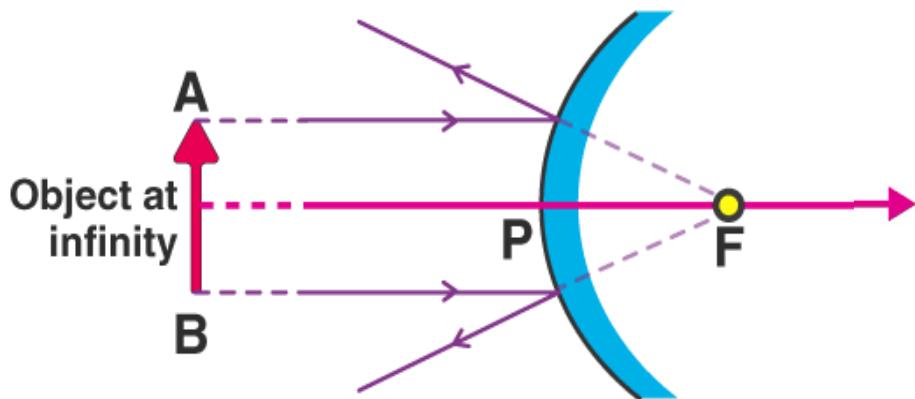
Dentists using Concave Mirror



Solar Furnace

CONVEX MIRROR

1) Object placed at Infinity



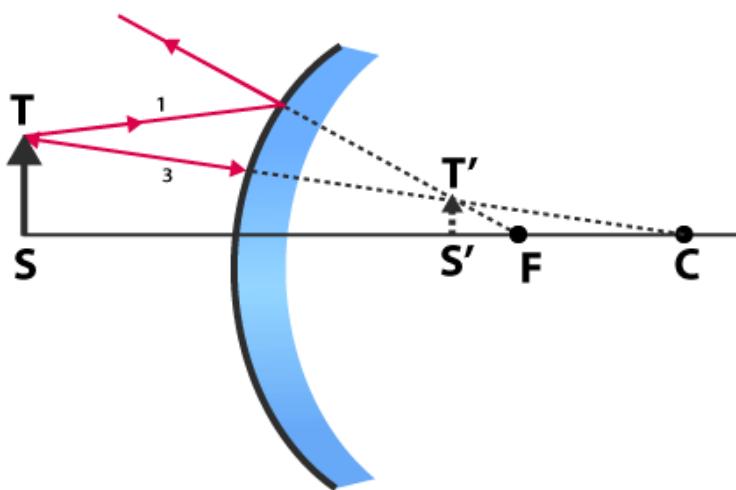
Image

Position – At 'F'

Nature – Virtual, Erect

Size – Very Small Size

2) Object placed between Infinity and Pole



Image

Position – Between 'P' and 'F'

Nature – Virtual, Erect

Size – Small Size

There are only two possible positions for Object

Position of Object	Position of Image	Size of Image	Nature of Image
<u>At Infinity</u>	At the focus F, Behind the mirror	Very Small	Virtual and Erect
<u>Between Infinity and Pole</u>	Between P and F, Behind the mirror	Small	Virtual and Erect

Uses of Convex Mirror -

- 1) Rear view mirrors in vehicles because they always give an erect image and have wider field of view as they are curved outward.
- 2) Big convex mirrors used in front of Schools, Buildings, Shops.

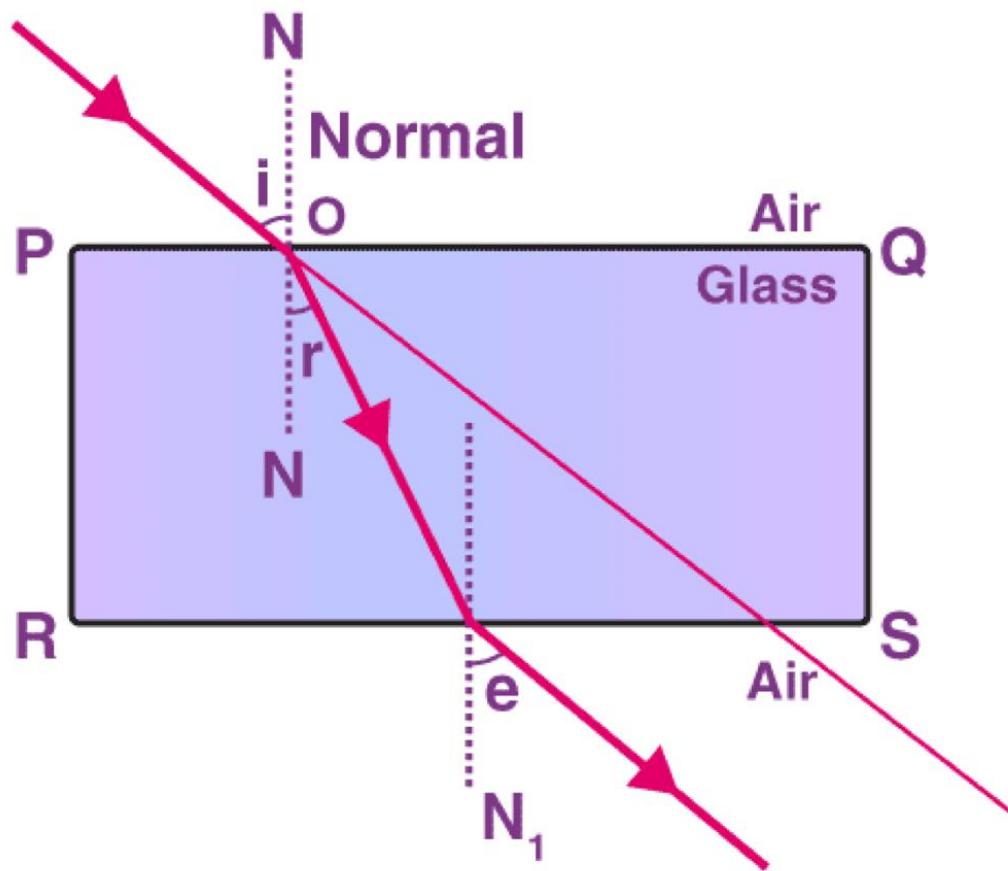


Convex Mirror in front of School



Car Mirror

3) Refraction through a Rectangular Glass Slab



CONVEX LENS

1) Object placed at Infinity

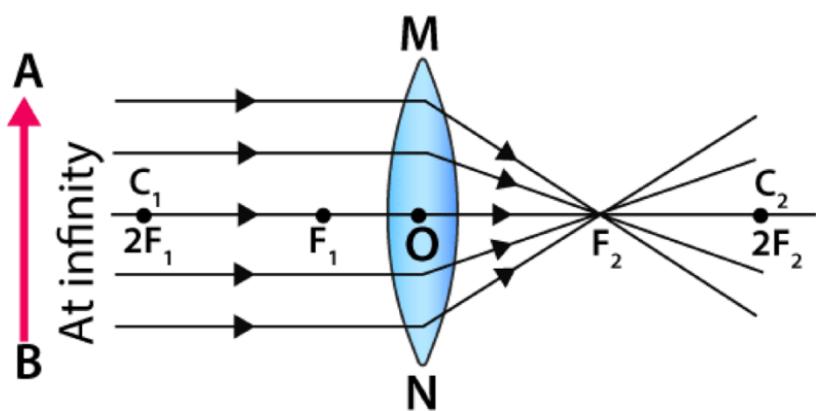


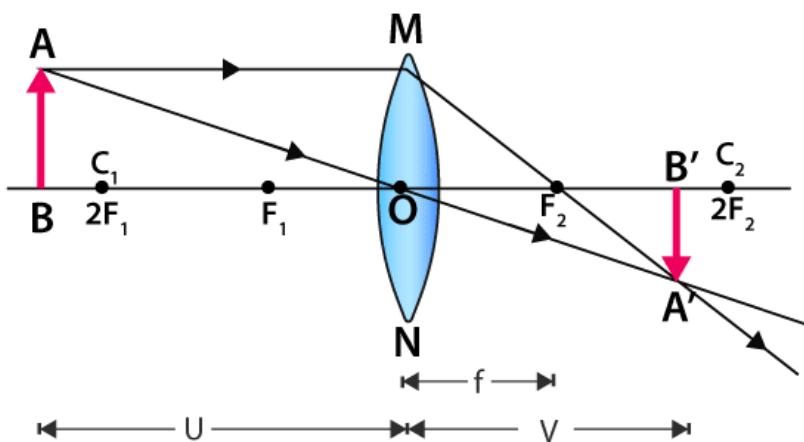
Image
Position – At ' F '
Nature – Real, Inverted
Size – Very Small



Burning Paper using Convex Lens

जिनकी पास की नज़र कमज़ोर है सिर्फ उन्हीं के चश्मे से होगा ये क्योंकि उनके चश्मे में ही Convex Lens होता है

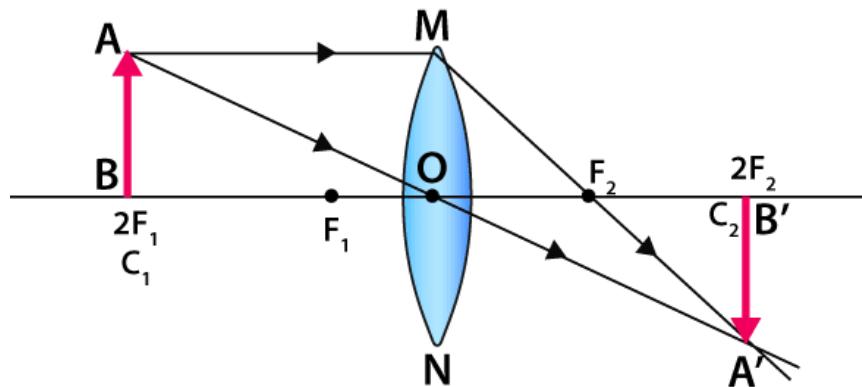
2) Object placed behind Center of Curvature



Image

- Position – Between ‘F’ and ‘C’
- Nature – Real, Inverted
- Size – Small

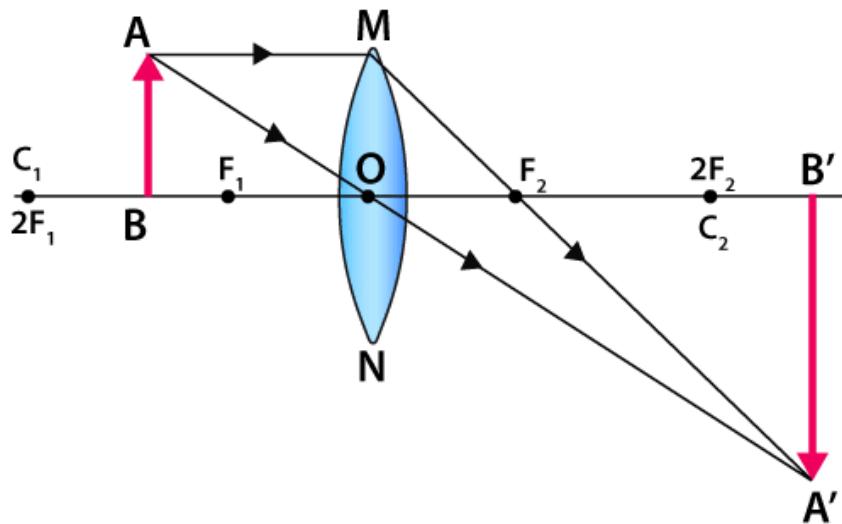
3) Object placed at Centre of Curvature



Image

- Position – At ‘C’
- Nature – Real, Inverted
- Size – Same Size

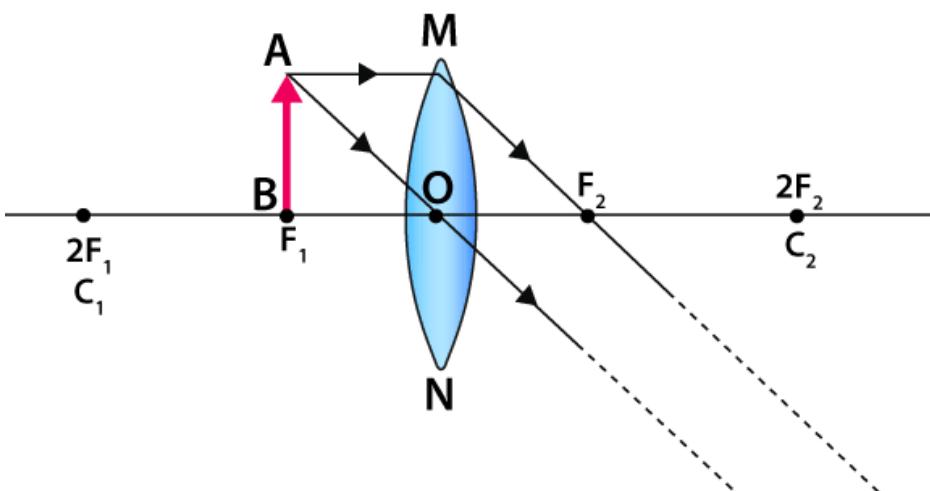
4) Object placed between Focus and Centre of Curvature



Image

Position – **Beyond 'C'**
Nature – **Real, Inverted**
Size – **Big Size**

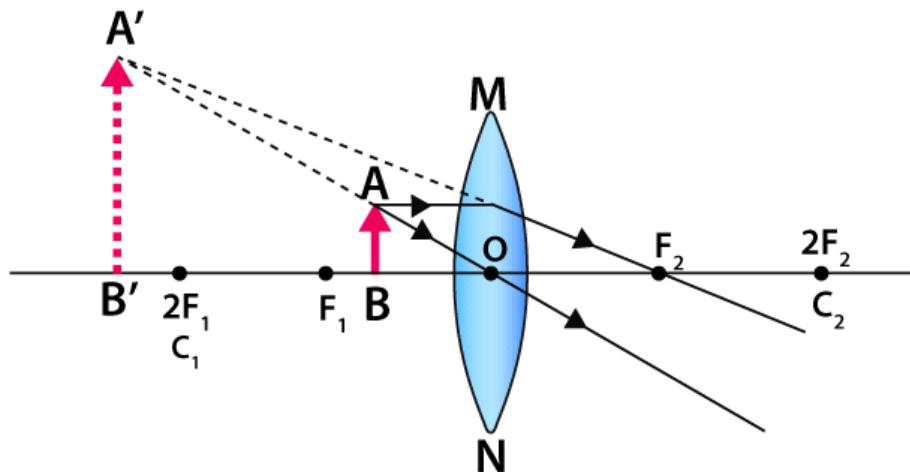
5) Object placed at Focus



Image

Position – **At Infinity**
Nature – **Real, Inverted**
Size – **Very Big Size**

6) Object placed between Focus and Pole



Image

Position – Behind Mirror

Nature – Virtual, Erect

Size – Big Size

Position of Object	Position of Image	Size of Image	Nature of Image
<u>At Infinity</u>	At F_2	Very Small	Real and Inverted
<u>Beyond $2F_1$</u>	Between $2F_2$ and F_2	Small	Real and Inverted
<u>Between $2F_1$ and F_1</u>	Beyond $2F_2$	Big	Real and Inverted
<u>At F_1</u>	At Infinity	Very Big	Real and Inverted
<u>At $2F_1$</u>	At $2F_2$	Same Size	Real and Inverted
<u>Between F_1 and O</u>	On Same side of the Object	Big	Virtual and Erect

Uses of Convex Lens -

- 1) Used for making Microscopes, Magnifying glasses



Microscopes



Magnifying Glass

- 2) Used for making Specs and Cameras



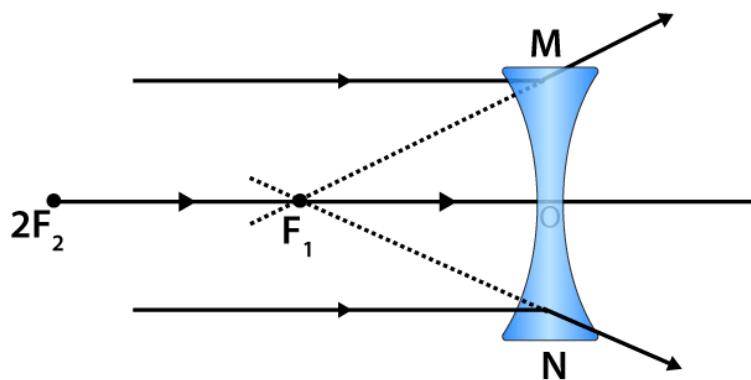
जिनकी पास की नज़र कमजोर होती है
उनकी चश्मा(Specs) में Convex
Lens होता है



Used in making Camera Lens

CONCAVE LENS

1) Object placed at Infinity



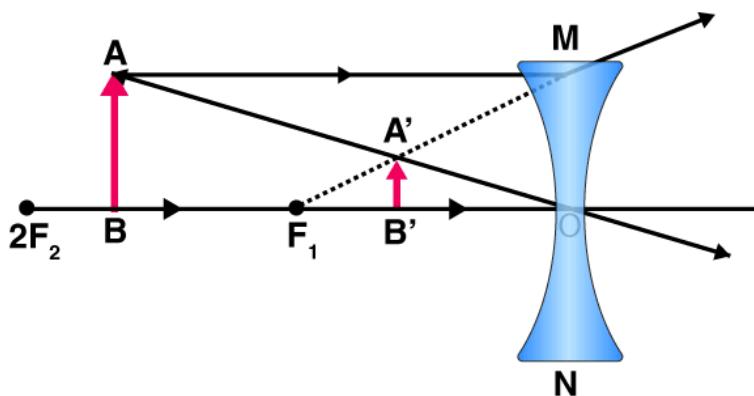
Image

Position – At ‘F’

Nature – Virtual, Erect

Size – Very Small Size

2) Object placed between Infinity and Pole



Image

Position – Between ‘P’ and ‘F’

Nature – Virtual, Erect

Size – Small Size

There are only two possible positions for Object

Position of Object	Position of Image	Size of Image	Nature of Image
<u>At Infinity</u>	At the focus (F_1)	Very Small	Virtual and Erect
<u>Between Infinity and Optical Center</u>	Between Focus (F_1) and Optical Center (O)	Small	Virtual and Erect

Uses of Concave Lens -

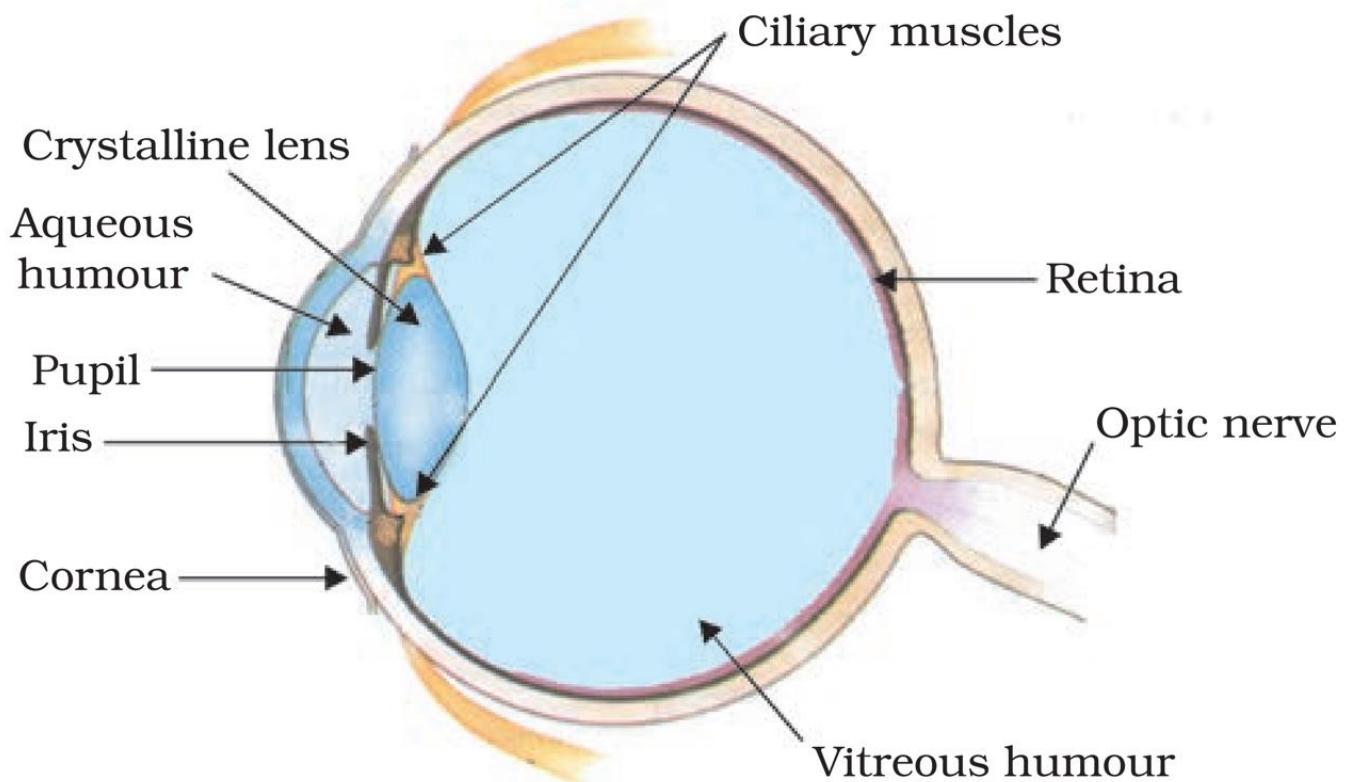
- 1) Used for making Specs, Lasers, Cameras



जिनकी दूर की नज़र कमज़ोर होती है
उनकी चश्मा(Specs) में Concave
Lens होता है

Laser Light

4) Human Eye



5) Dispersion of white Light

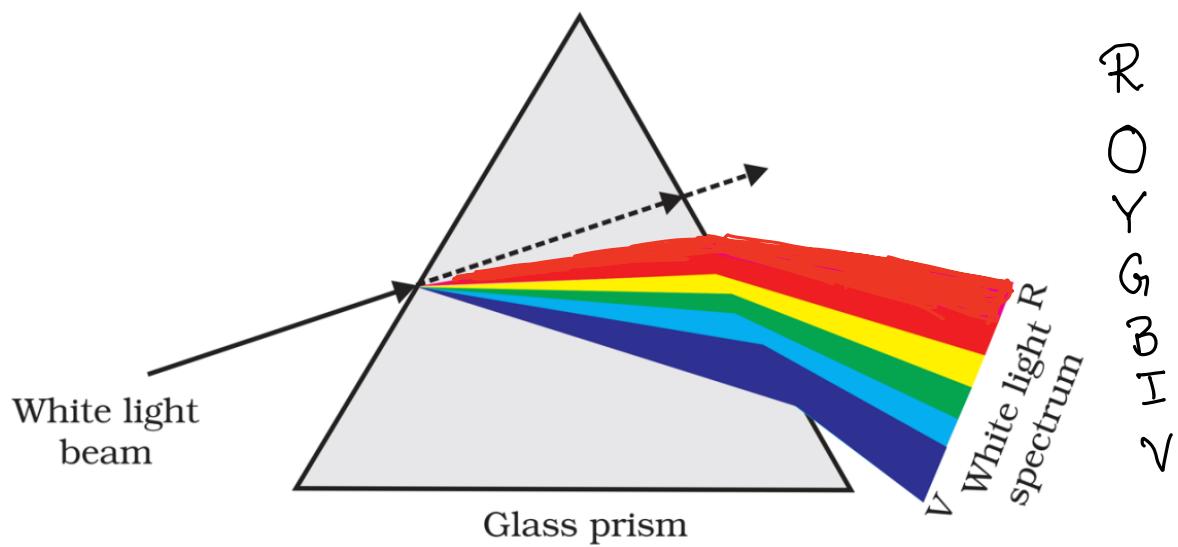
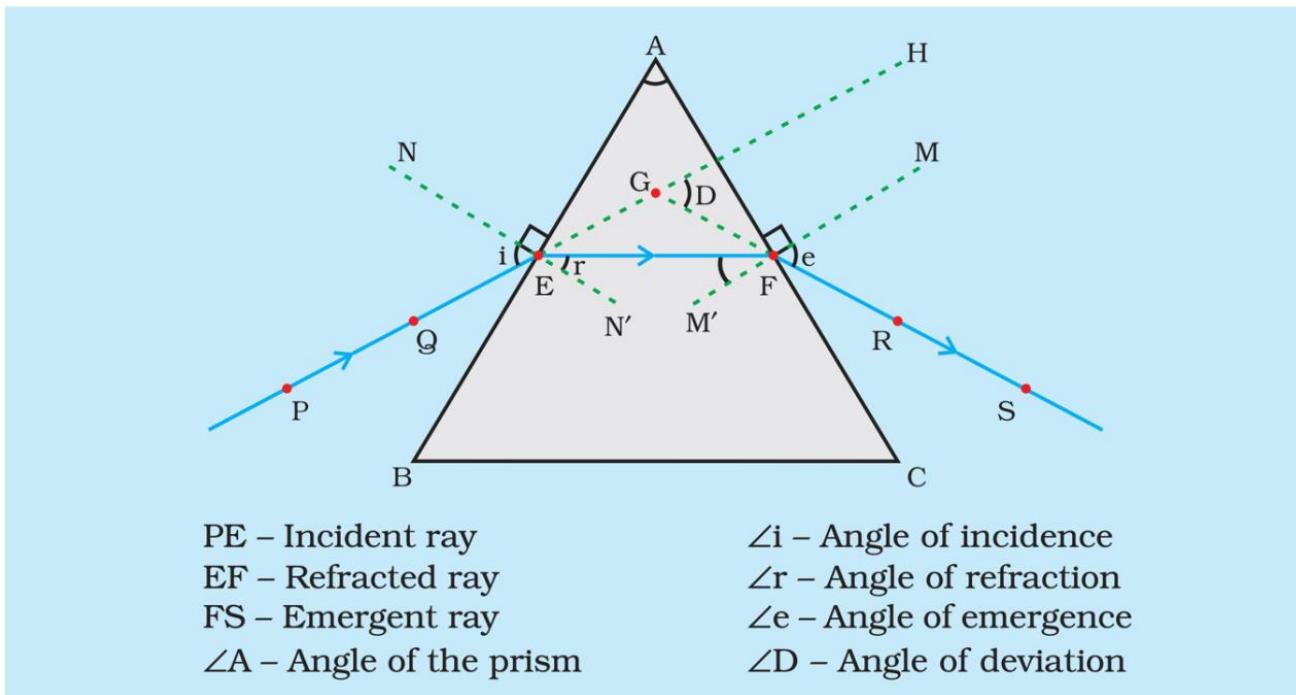
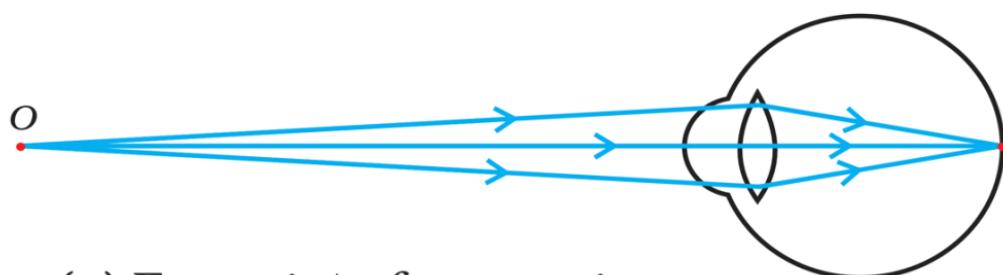


Figure 10.5 Dispersion of white light by the glass prism

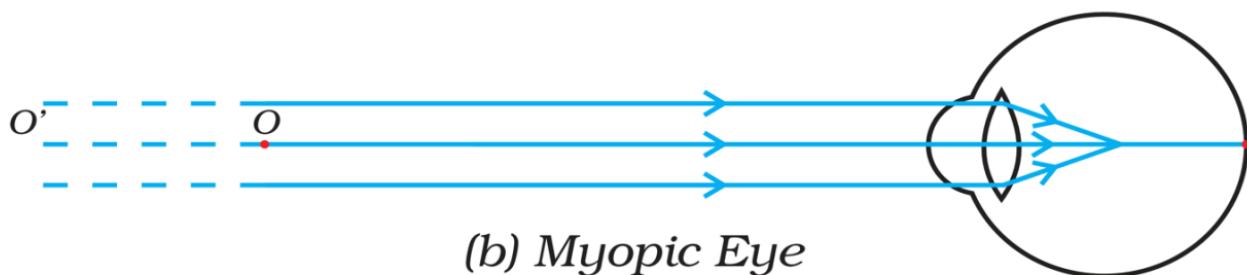
6) Refraction of Light through a triangular glass prism



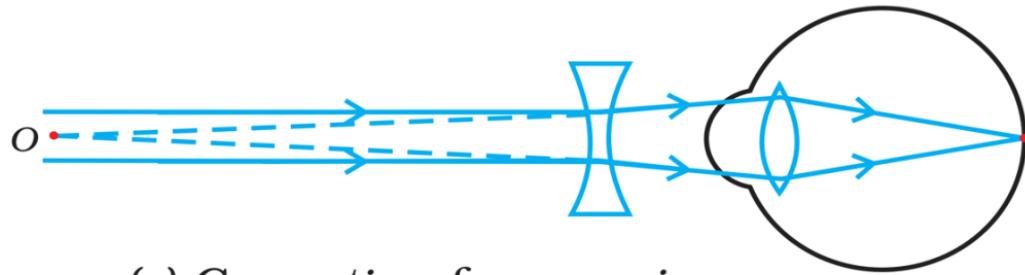
7) Myopia



(a) Far point of a myopic eye

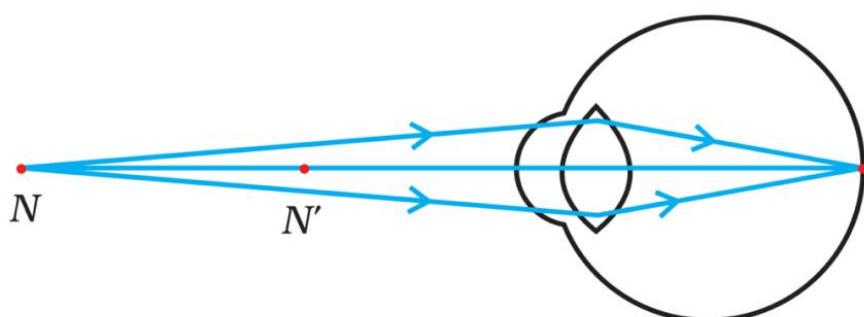


(b) Myopic Eye

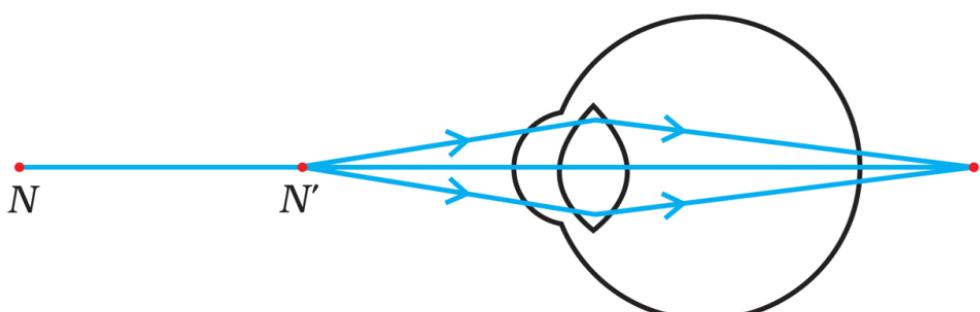


(c) Correction for myopia

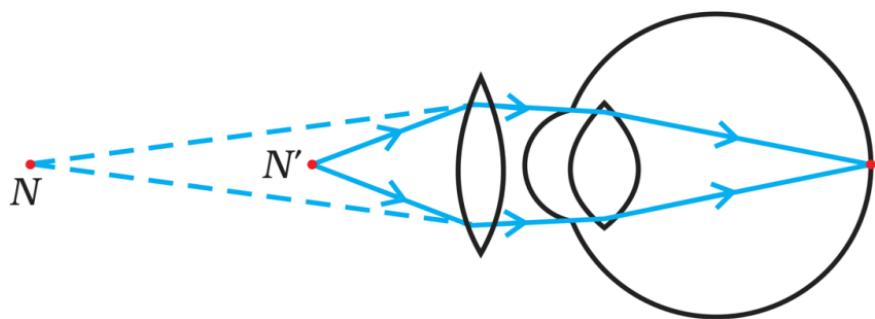
8) Hypermetropia



(a) Near point of a Hypermetropic eye

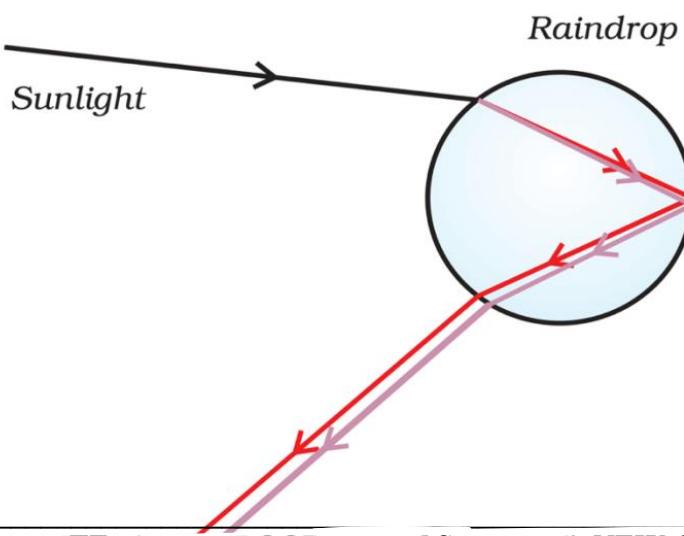


(b) Hypermetropic eye

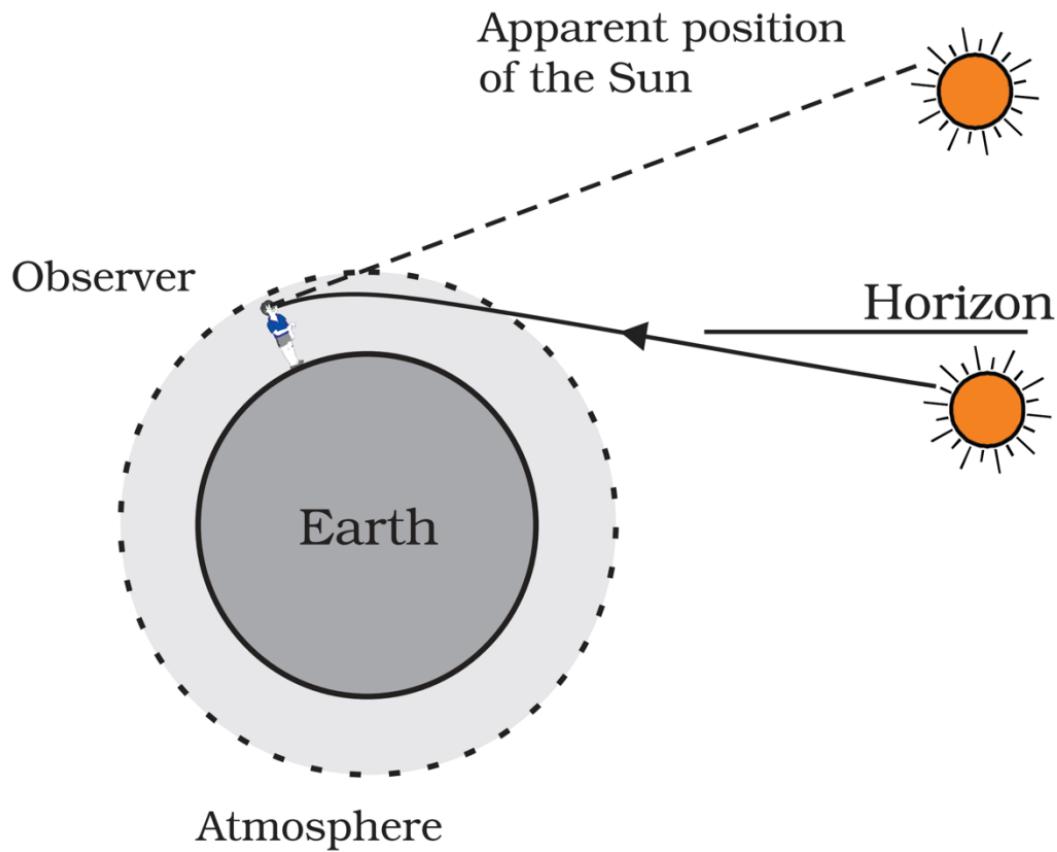


(c) Correction for Hypermetropic eye

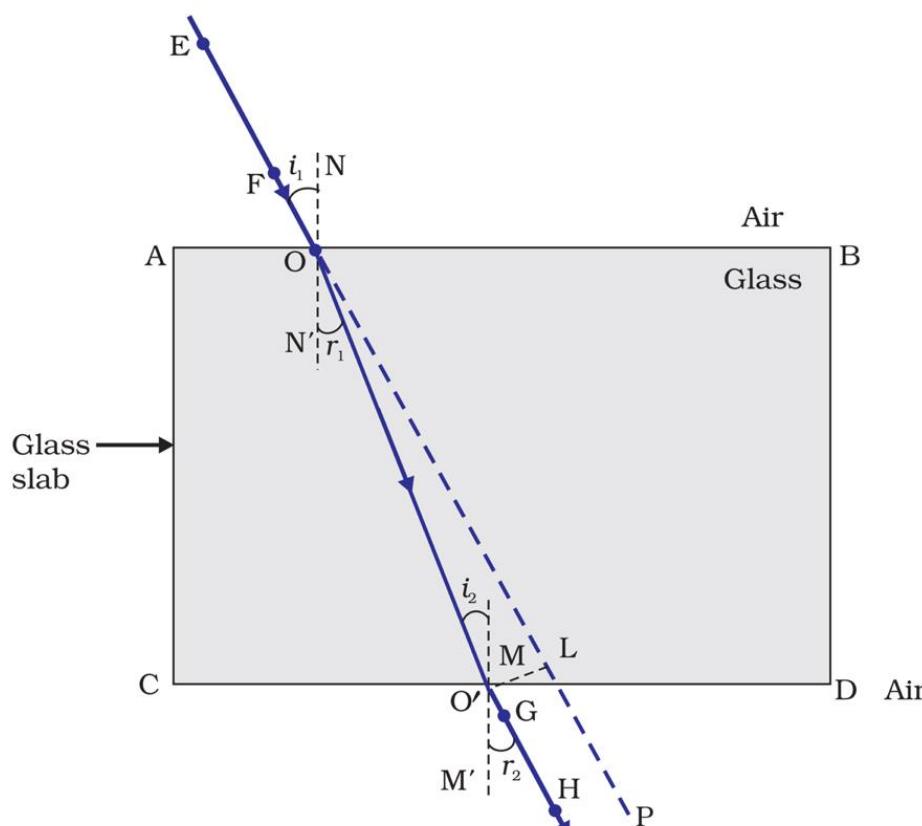
9) Rainbow Formation



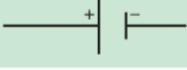
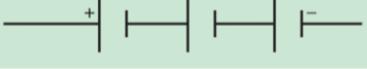
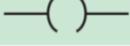
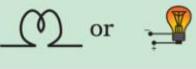
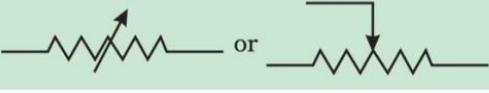
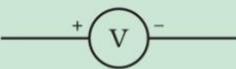
10) Apparent star position due to Atmospheric Refraction



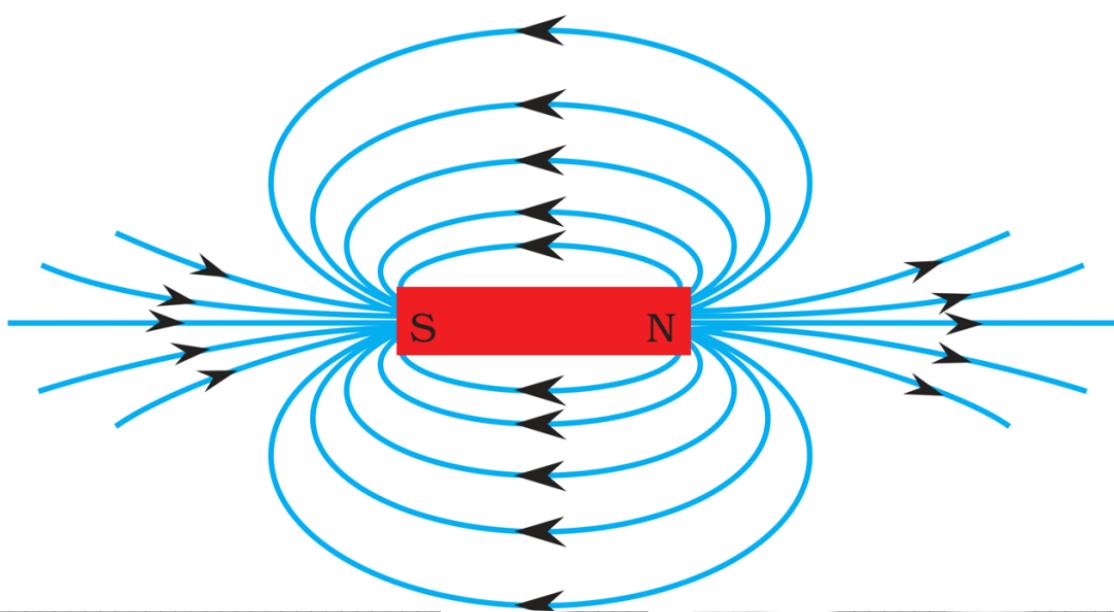
11) Refraction through Glass Slab



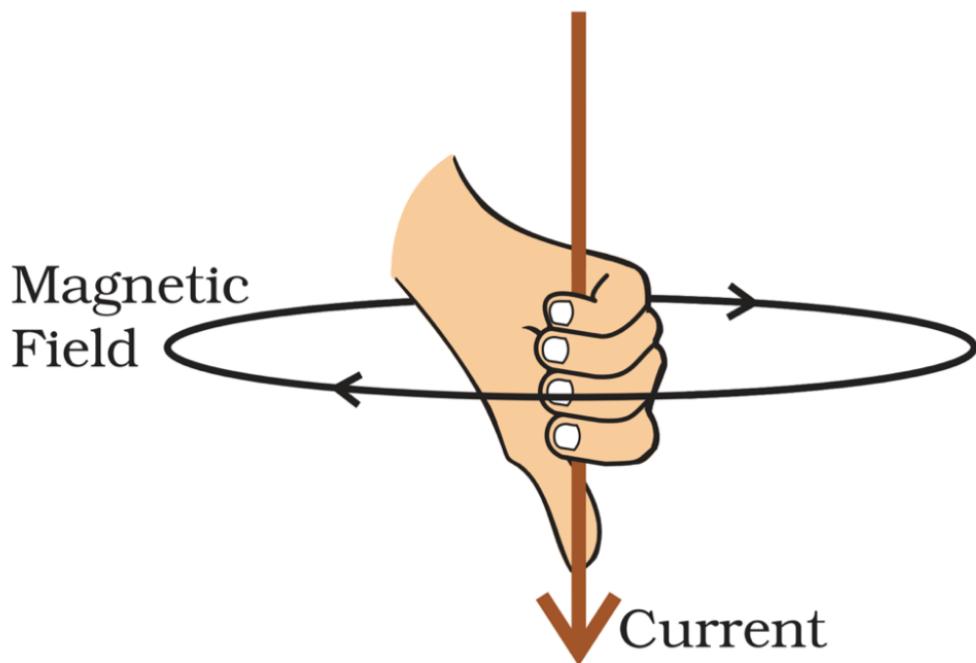
12) Symbols of Electric Circuits

S1. No.	Components	Symbols
1	An electric cell	
2	A battery or a combination of cells	
3	Plug key or switch (open)	
4	Plug key or switch (closed)	
5	A wire joint	
6	Wires crossing without joining	
7	Electric bulb	
8	A resistor of resistance R	
9	Variable resistance or rheostat	
10	Ammeter	
11	Voltmeter	

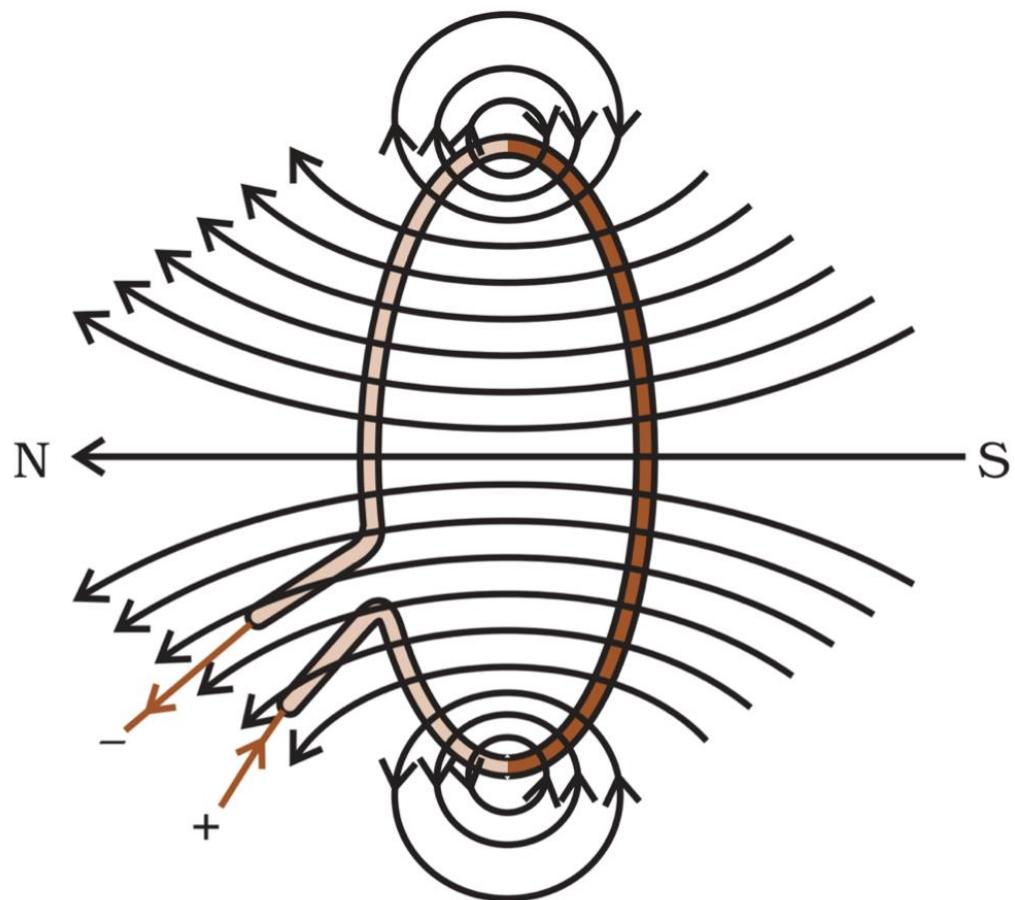
13) Magnetic Field Lines around Bar



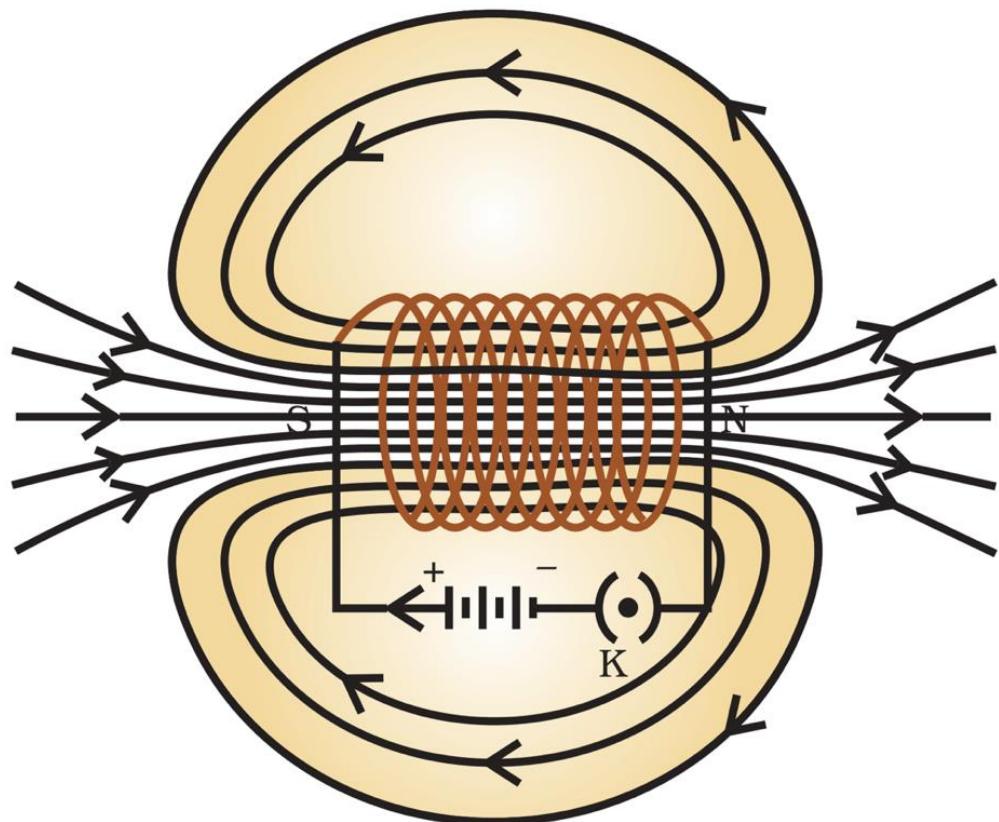
14) Right-Hand Thumb Rule



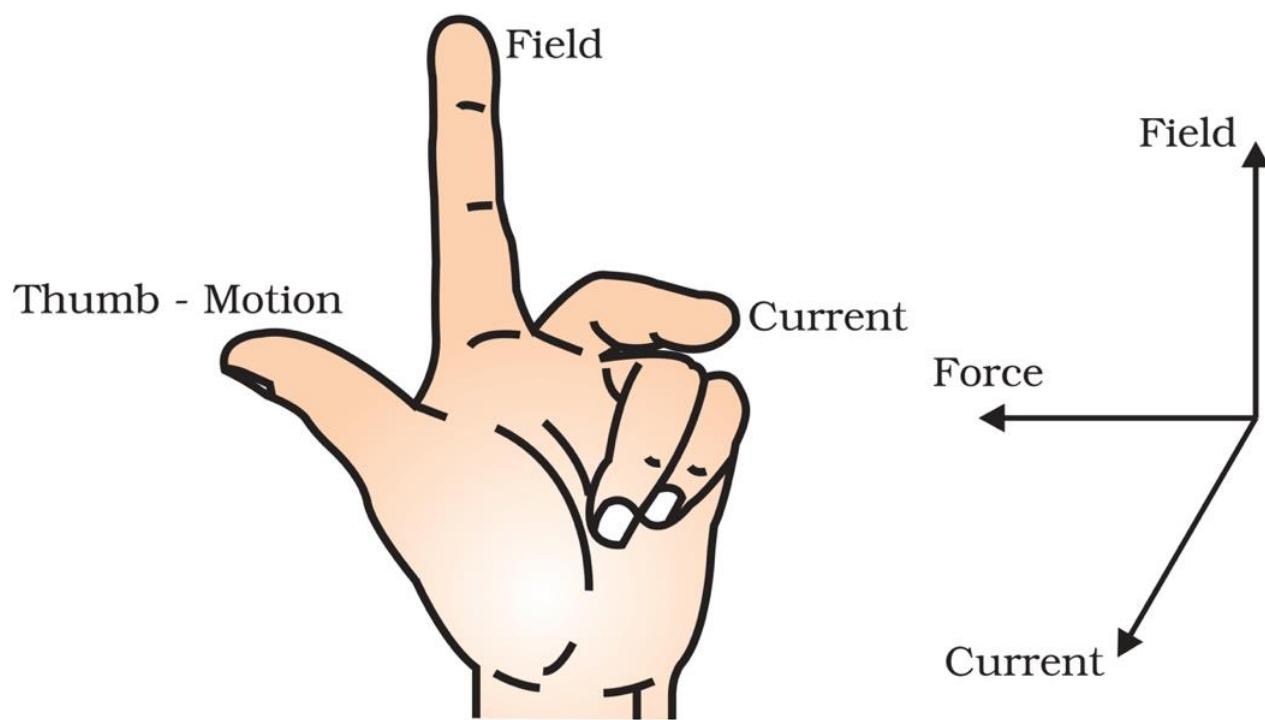
15) Magnetic Field Lines by Current carrying Conductor



16) Magnetic Field Lines through Solenoid



17) Fleming's Left-Hand Rule



18) Diagram of Common Domestic Circuit

