Important Diagrams

Biology Diagrams

1) Human Alimentary Canal

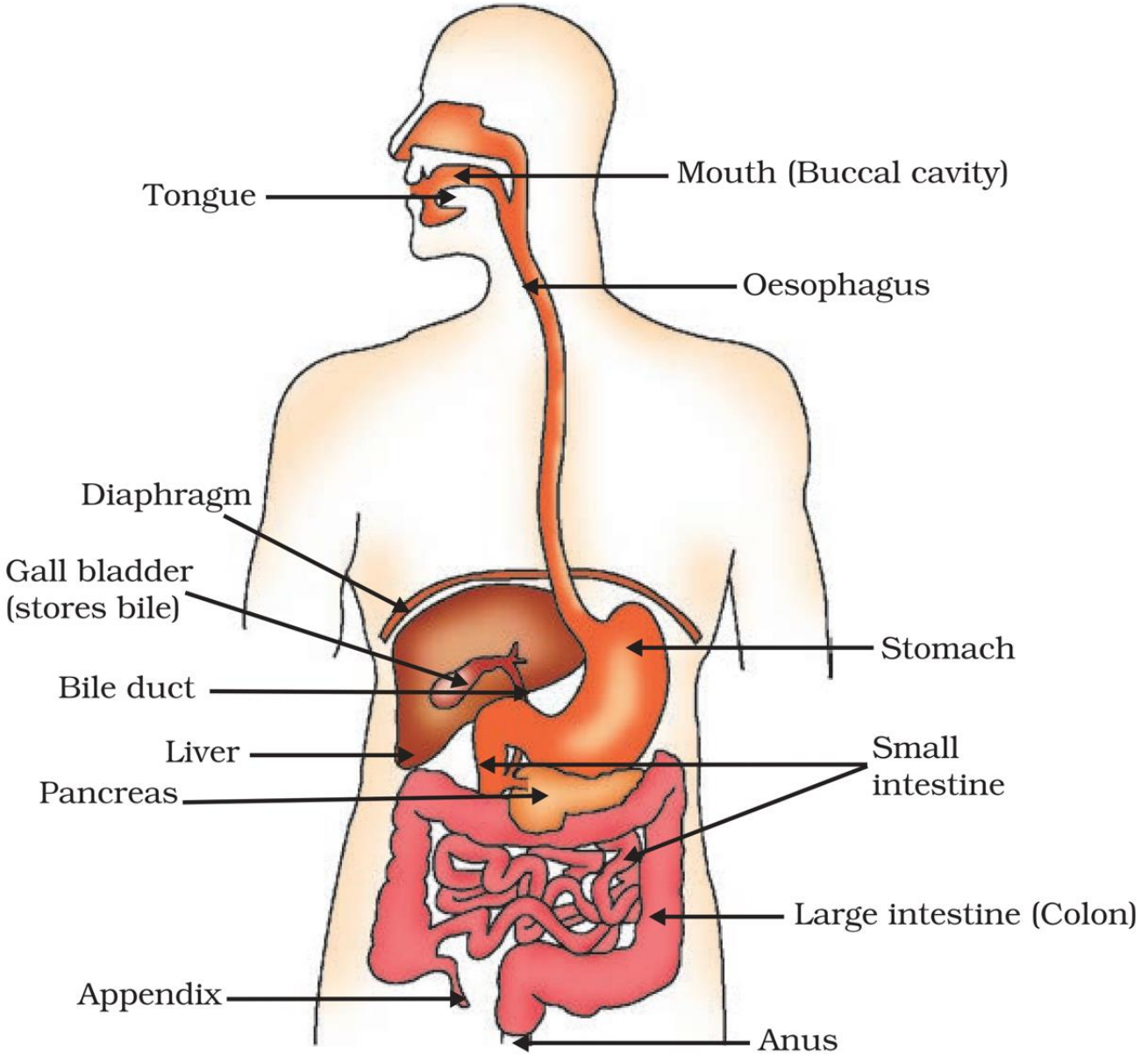
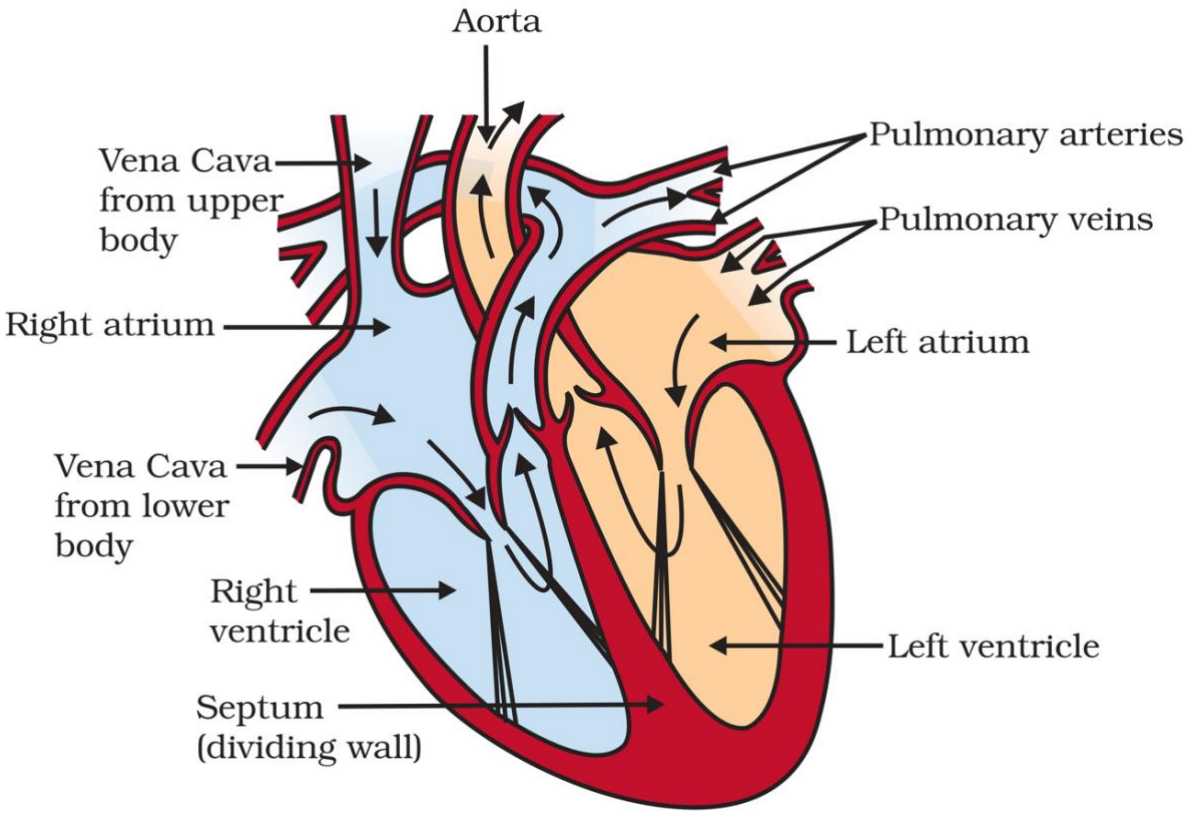
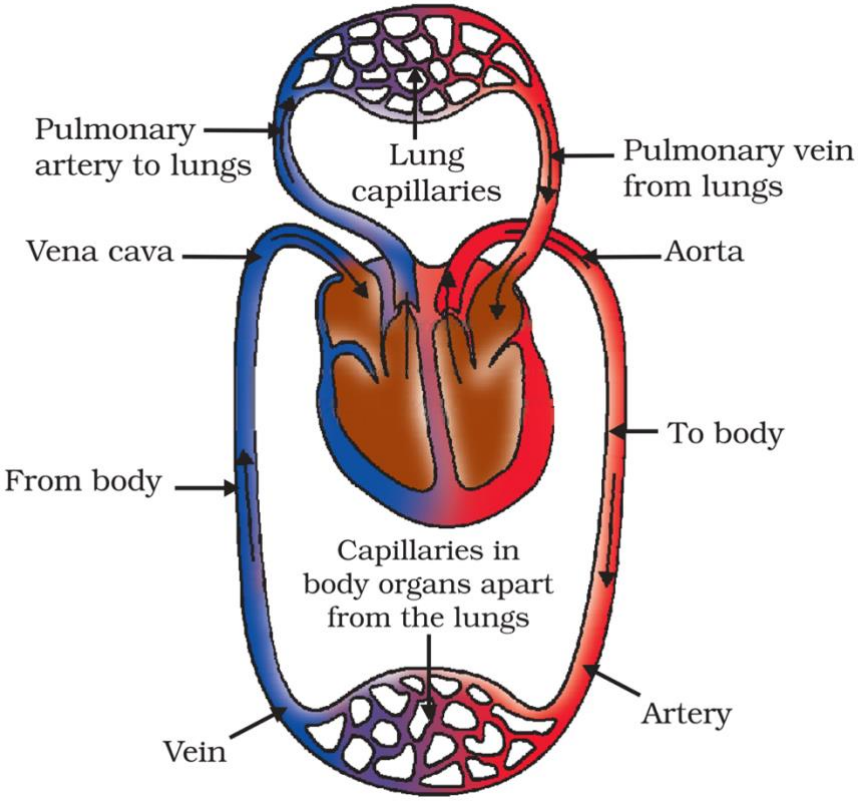


Figure 5.6 *Human alimentary canal*

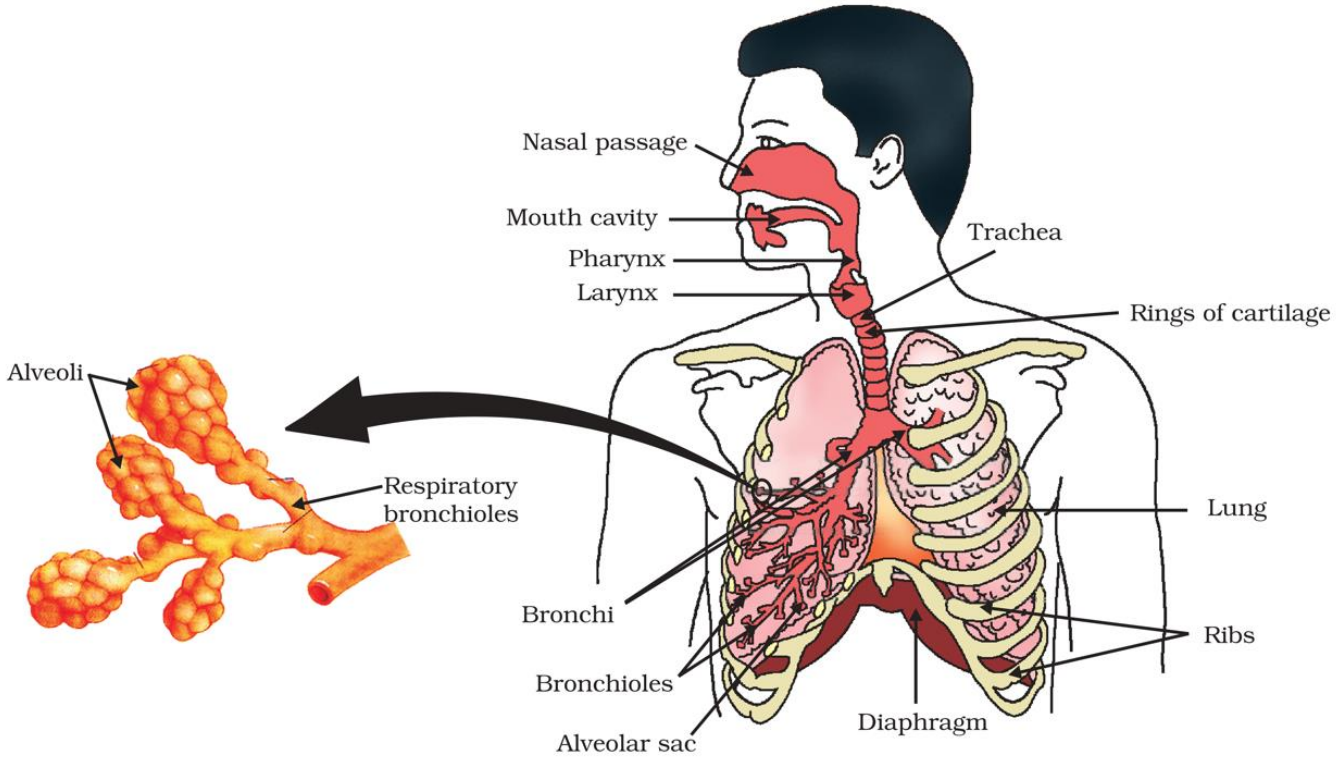
2) Human Heart



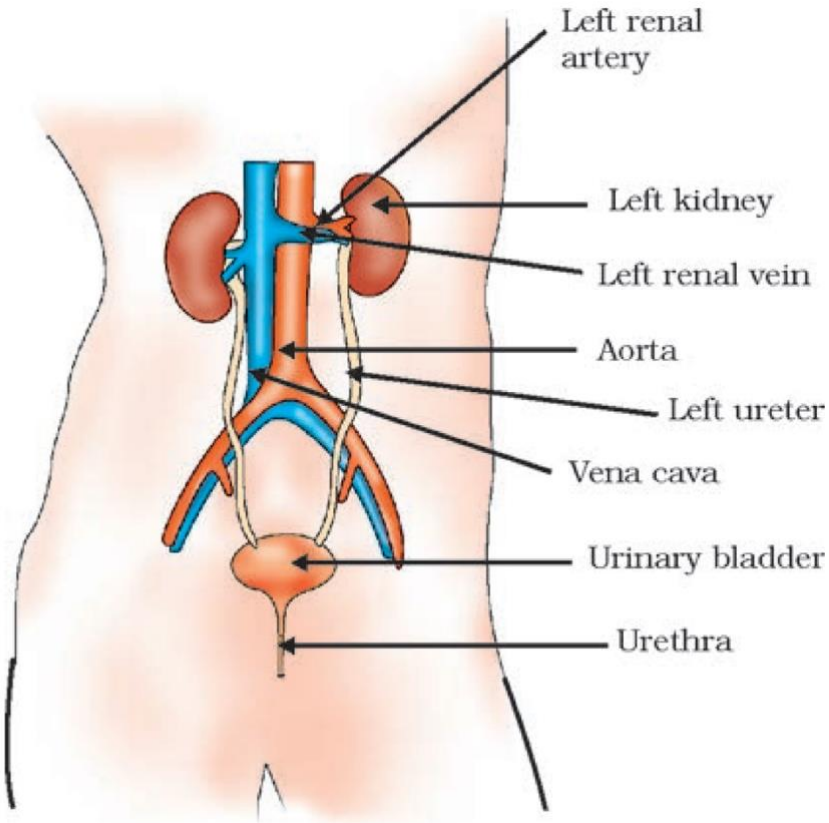
3) Transportation of Blood and Oxygen



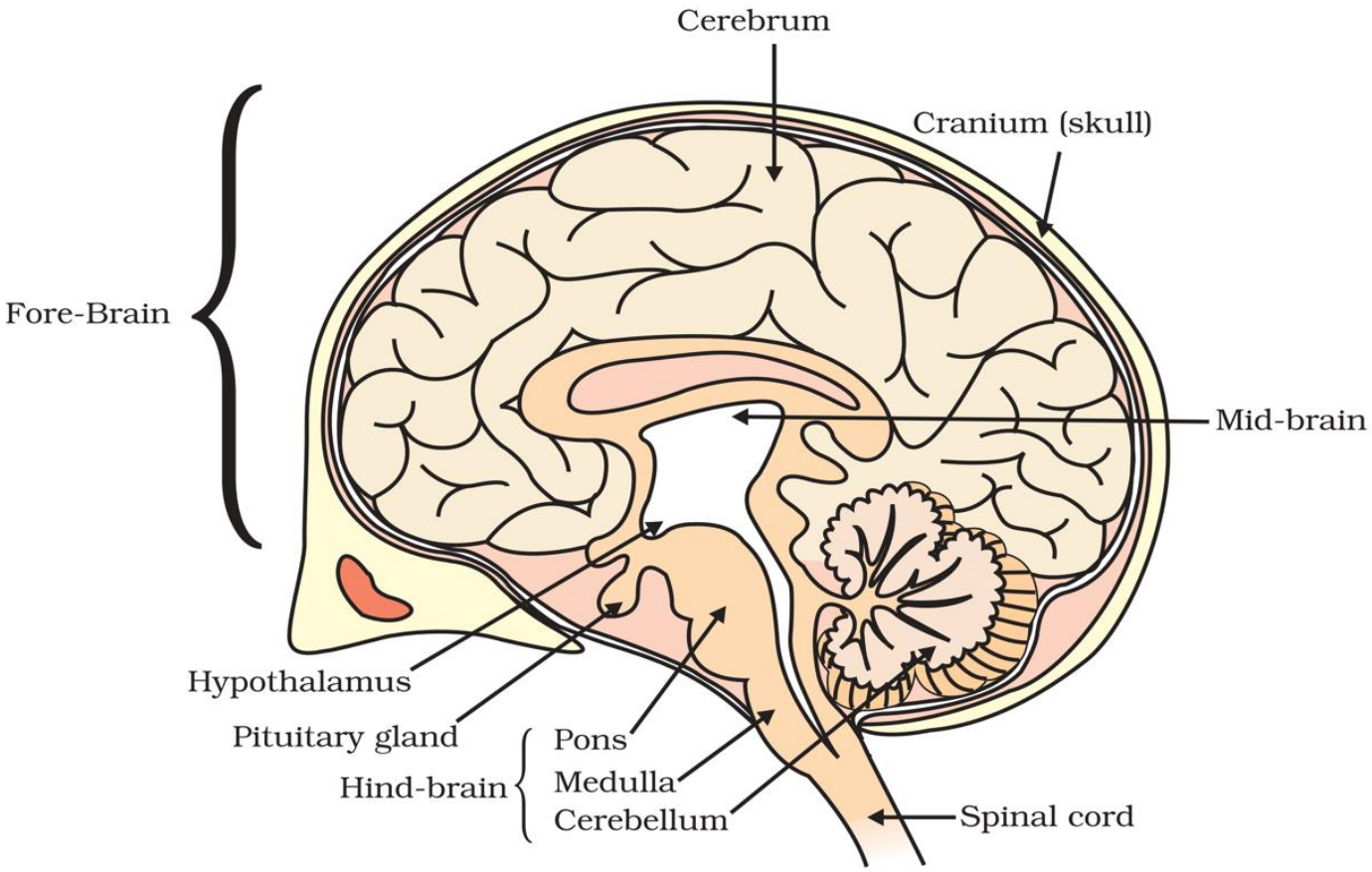
4) Human Respiratory System



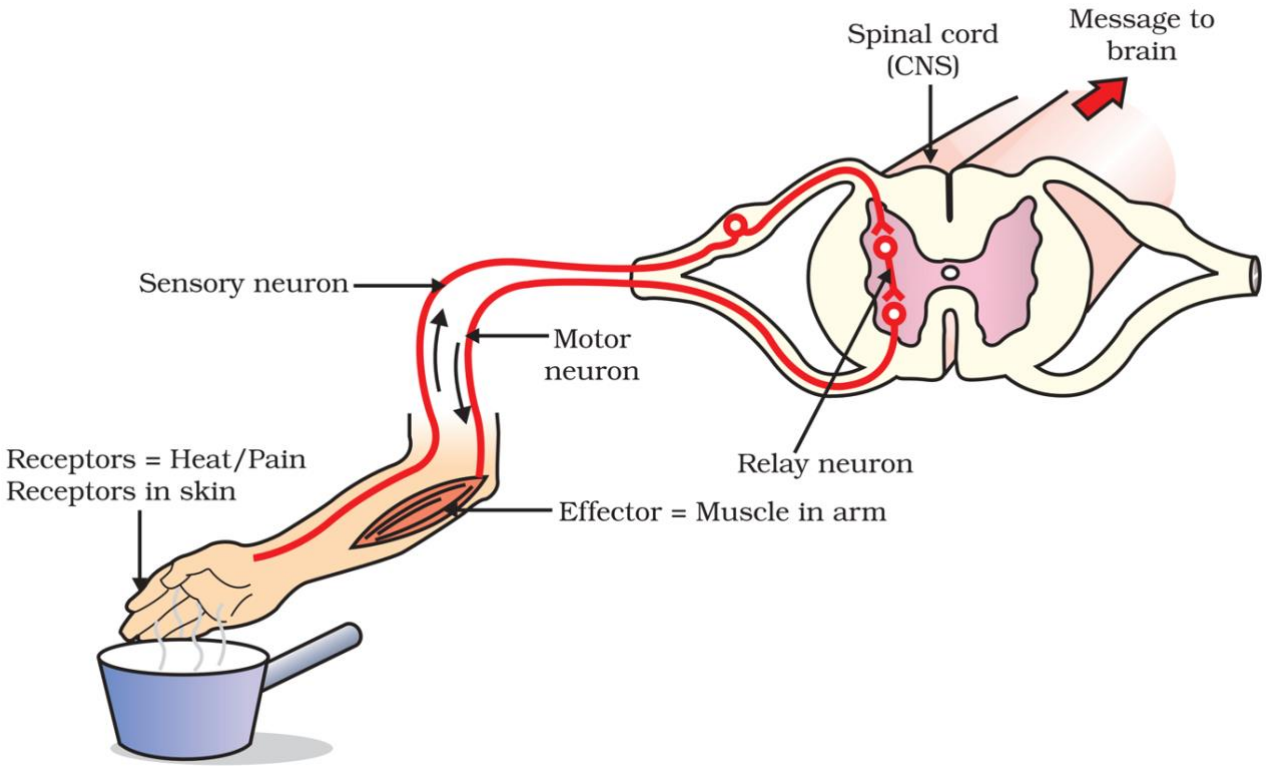
5) Human Excretory System



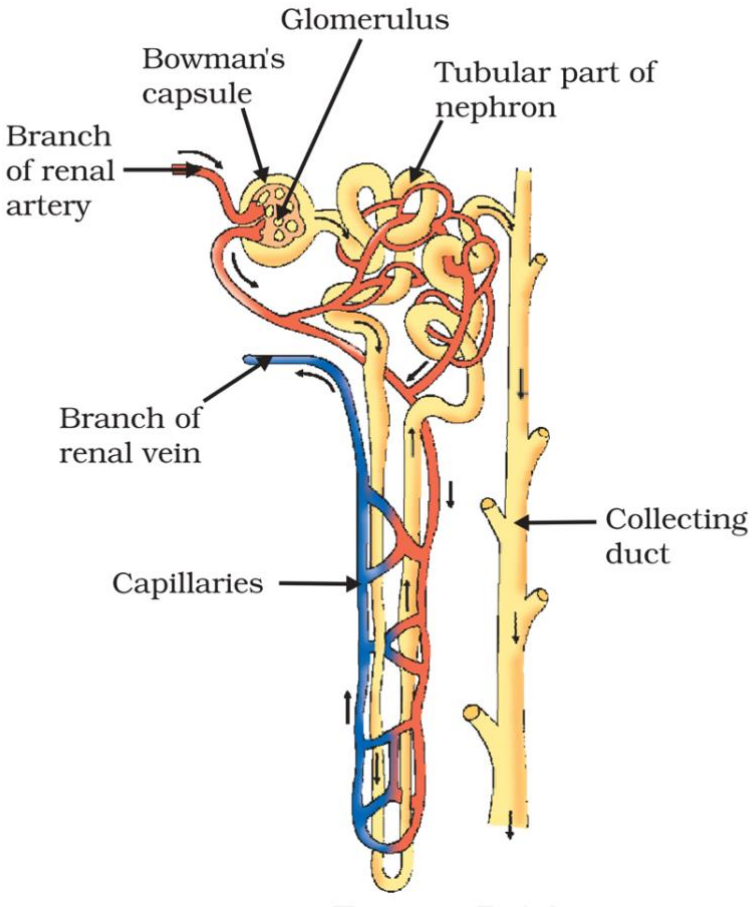
6) Human Brain



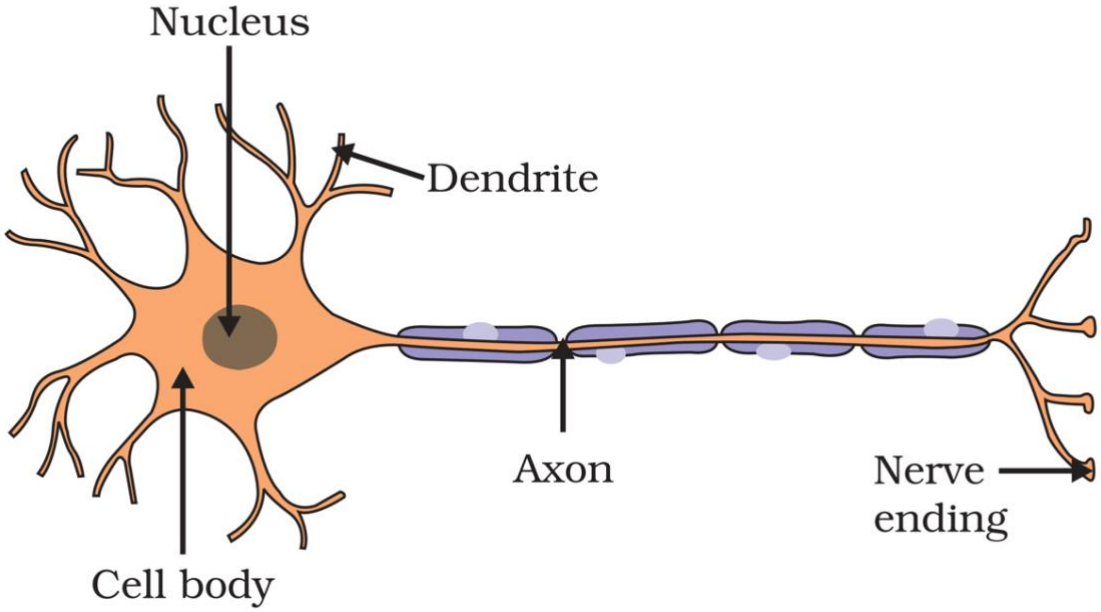
7) Reflex Arc



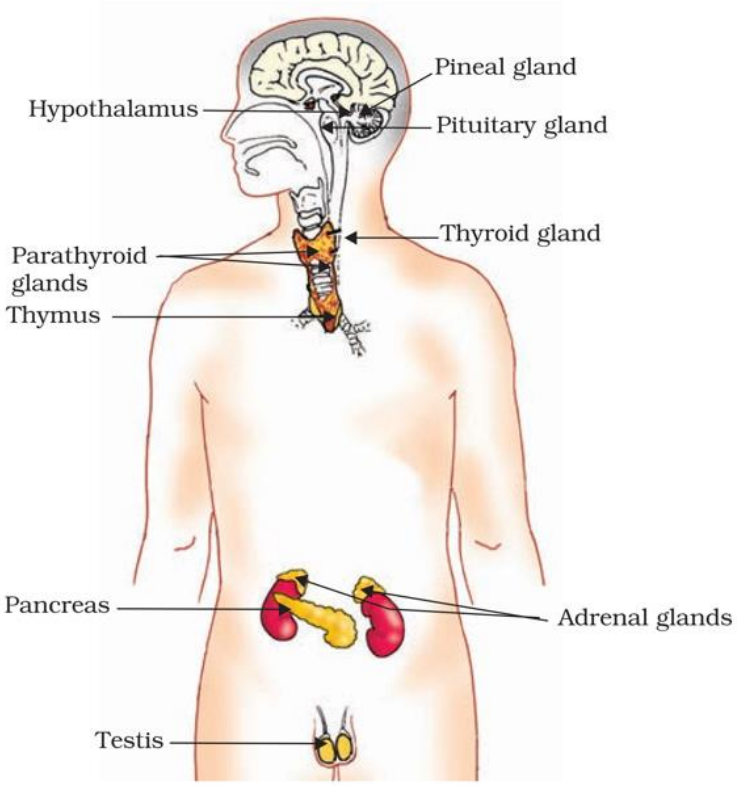
8) Nephron



9) Neuron

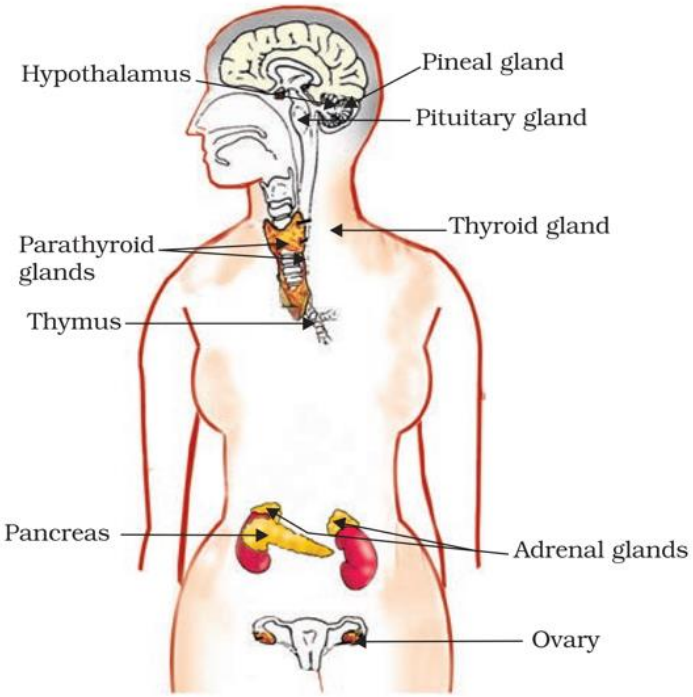


10) Endocrine Glands



(a)

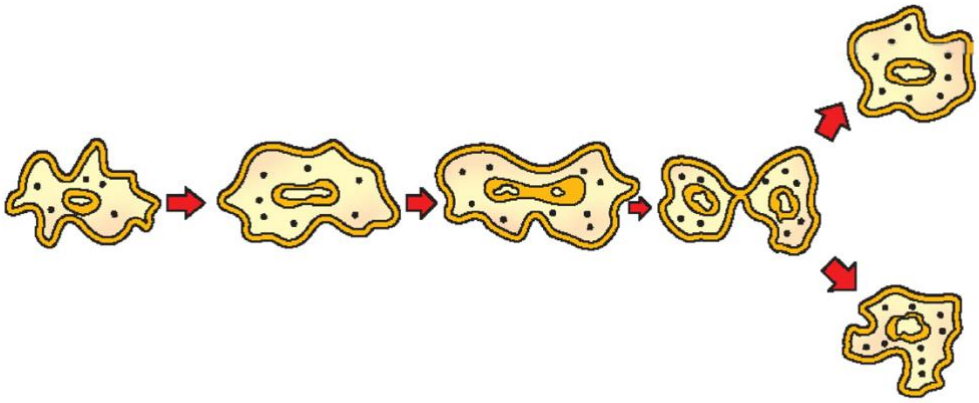
Male



(b)

Female

11) Binary Fission in Amoeba



2 Daughter Cells

12) Regeneration in Planaria

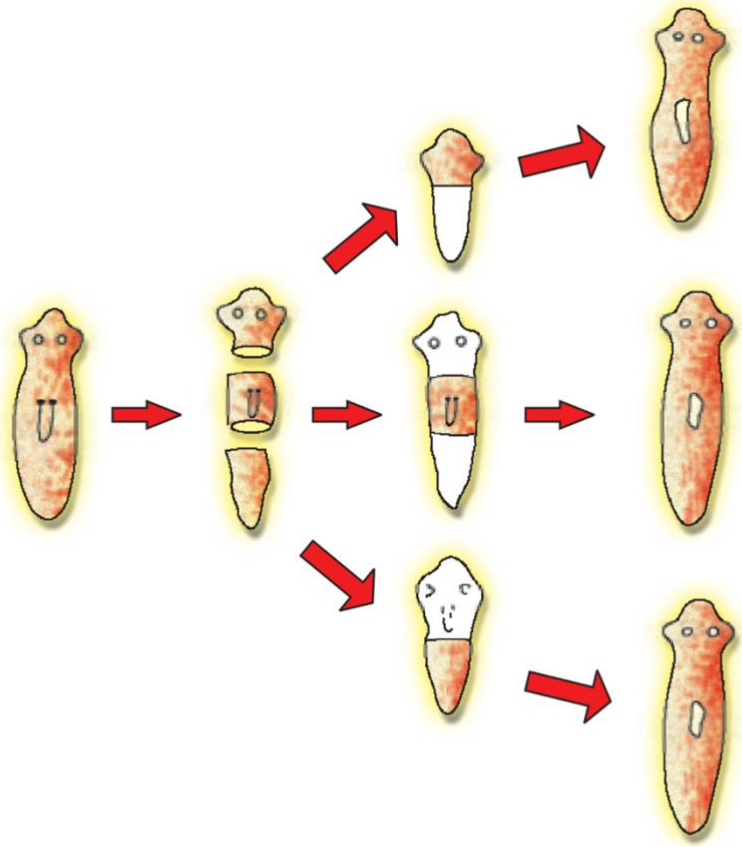
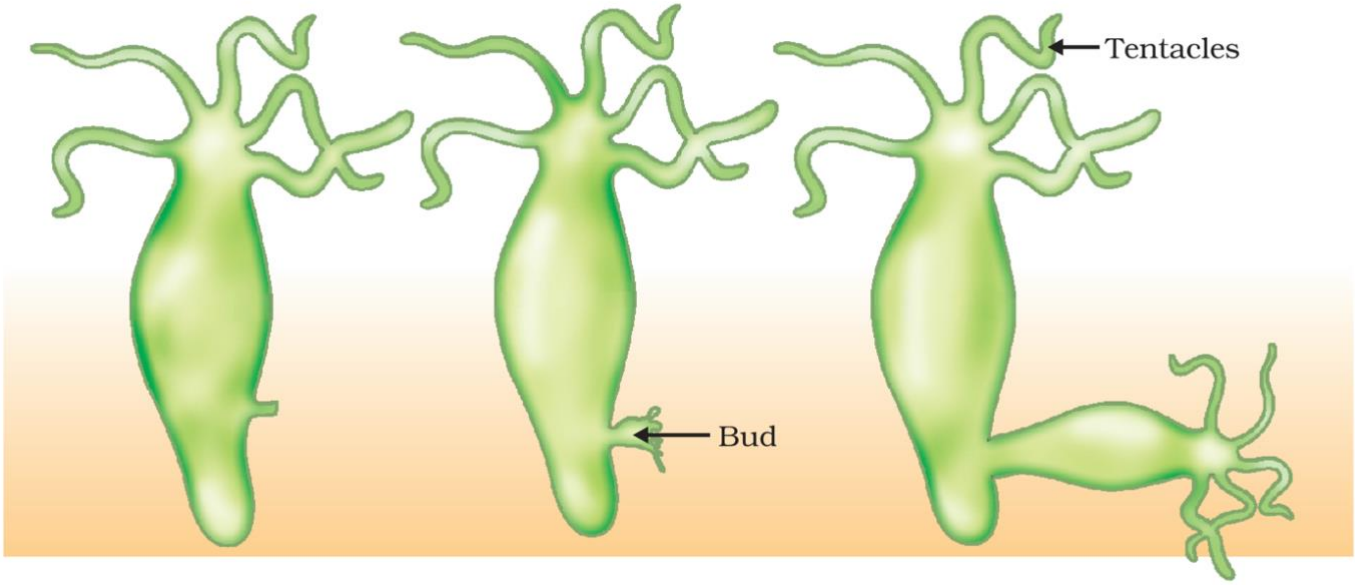
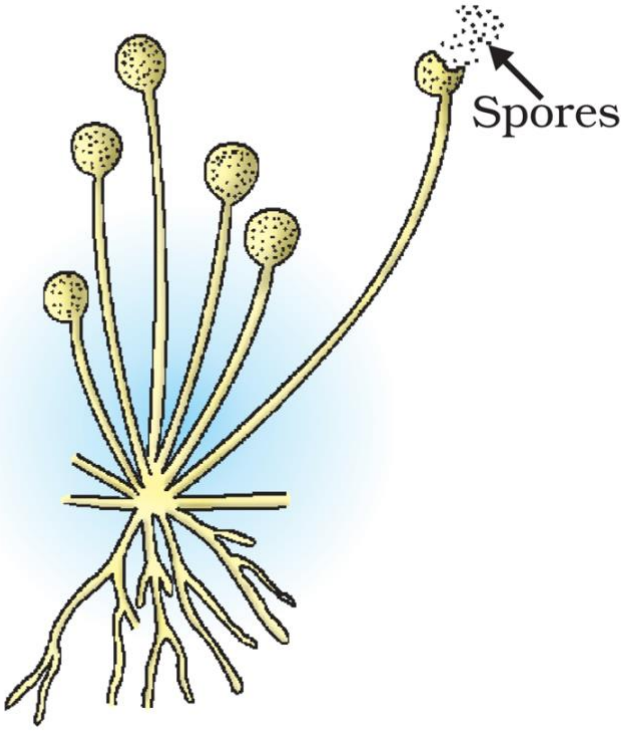


Figure 7.3 *Regeneration in Planaria*

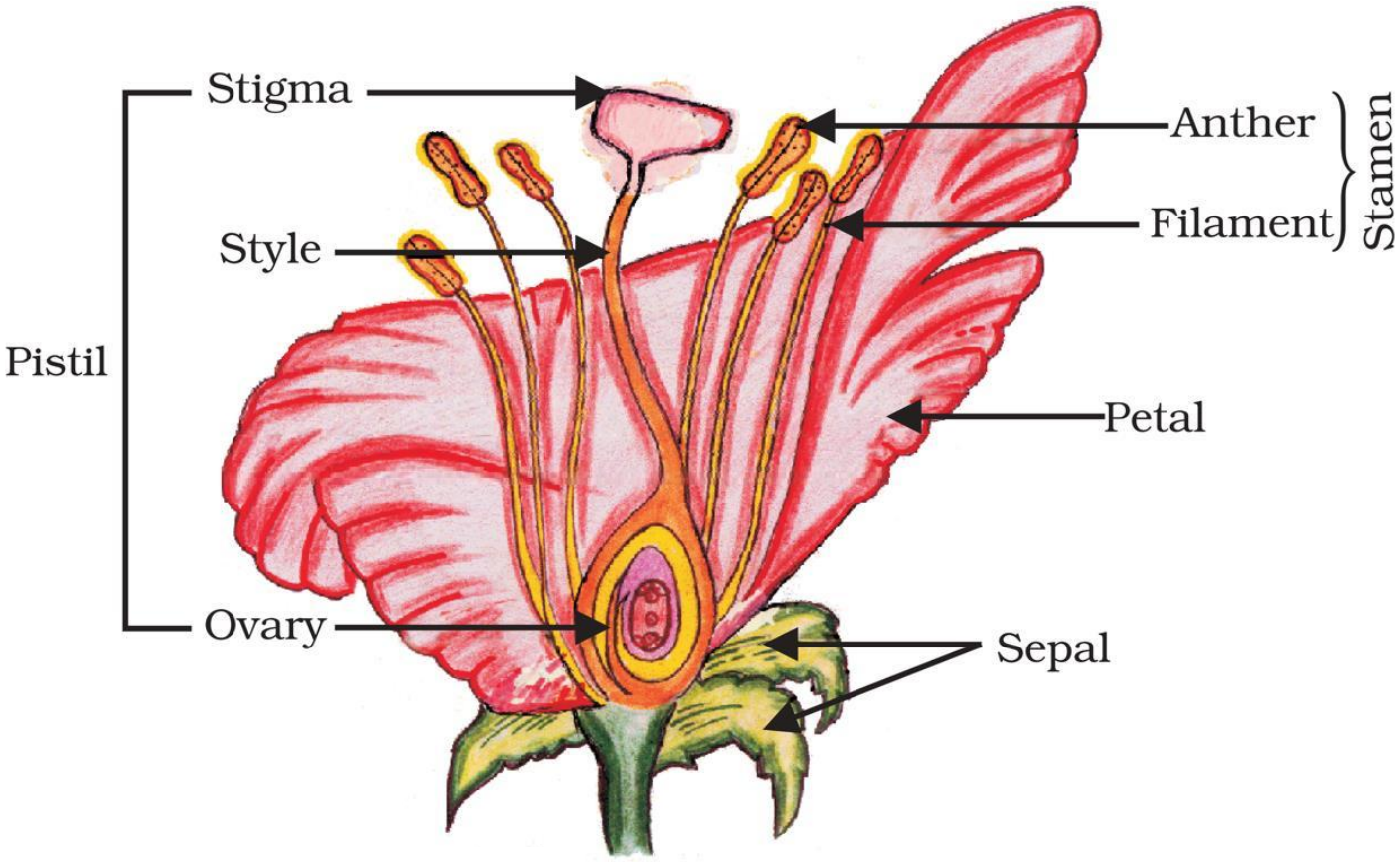
13) Budding in Hydra



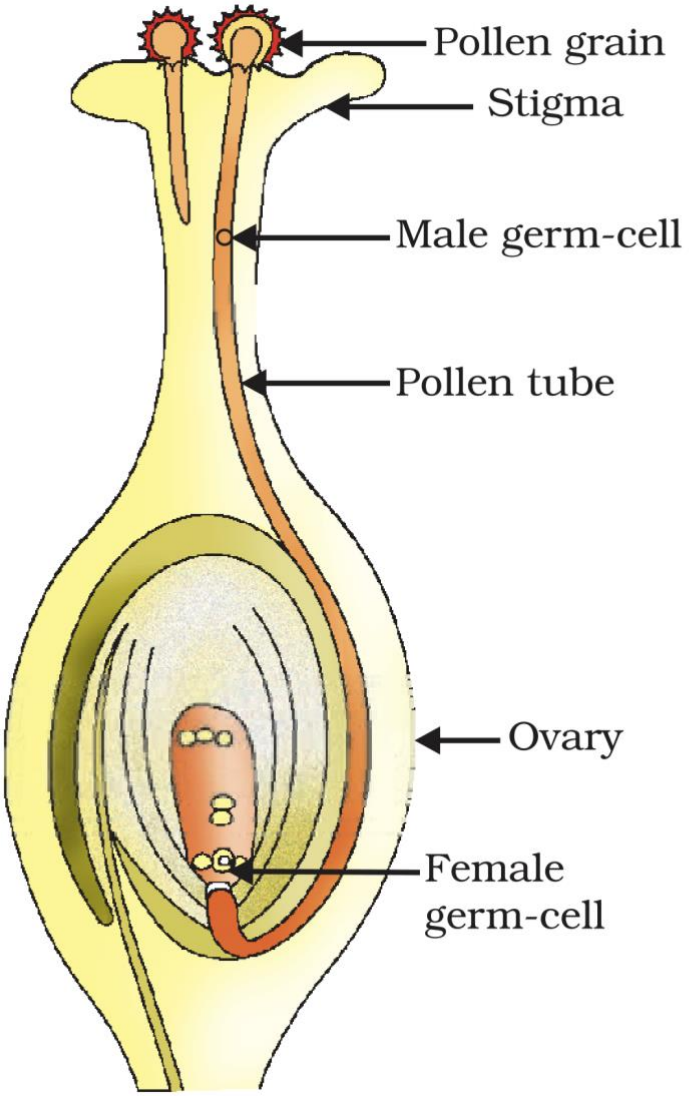
14) Spore Formation in Rhizopus



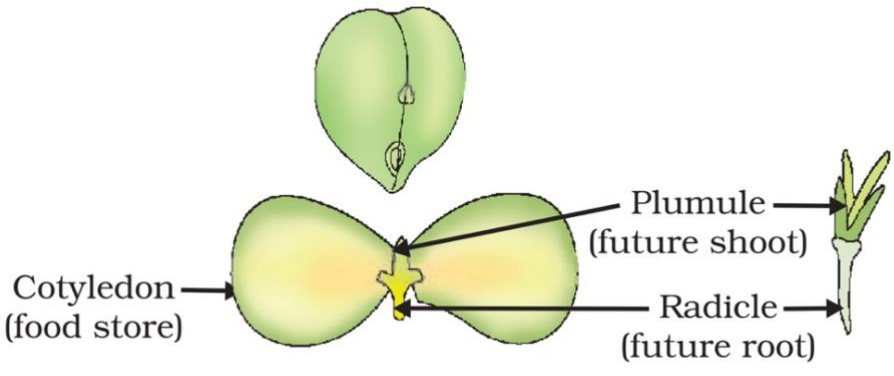
15) Parts of Flower



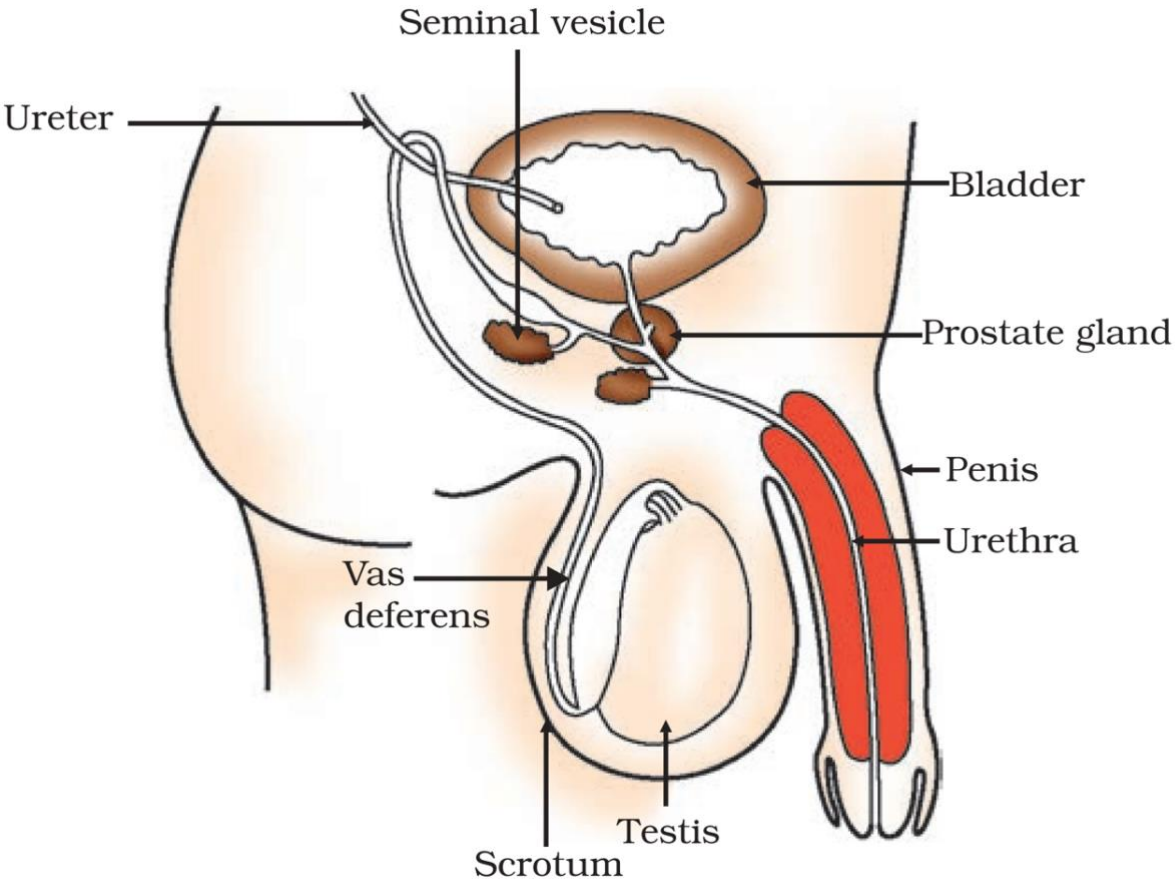
16) Germination of Pollen on Stigma



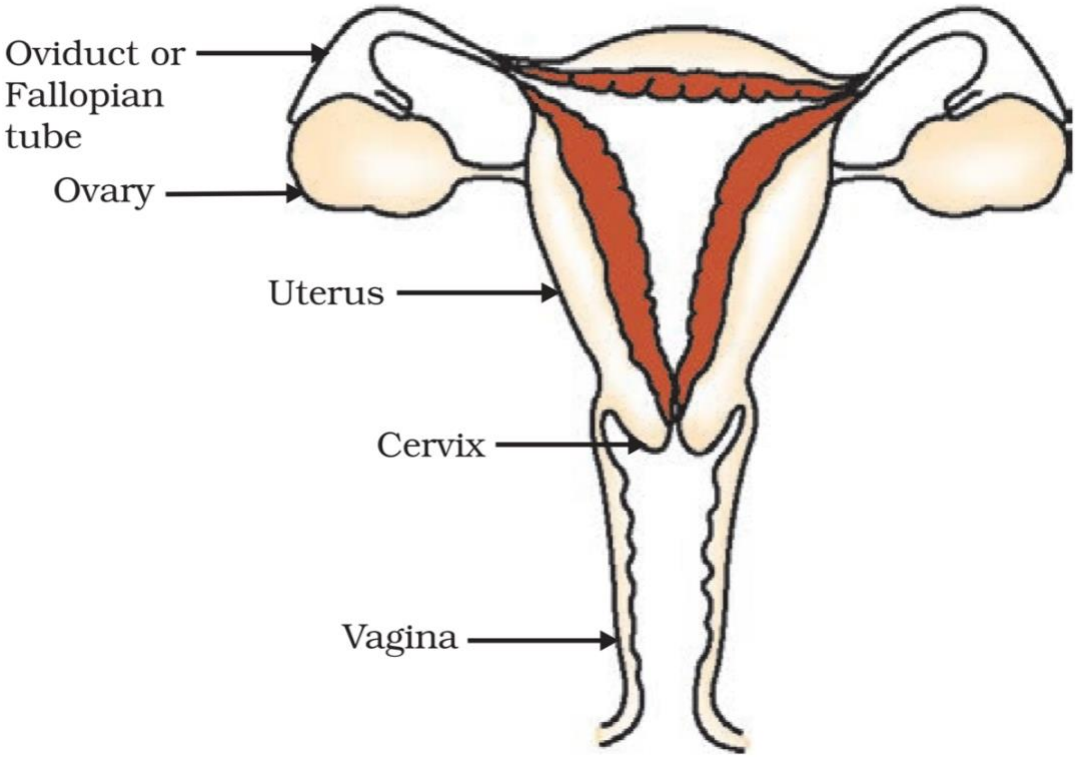
17) Germination



18) Male Reproductive System



19) Female Reproductive System



20) Multiple Fission in Plasmodium

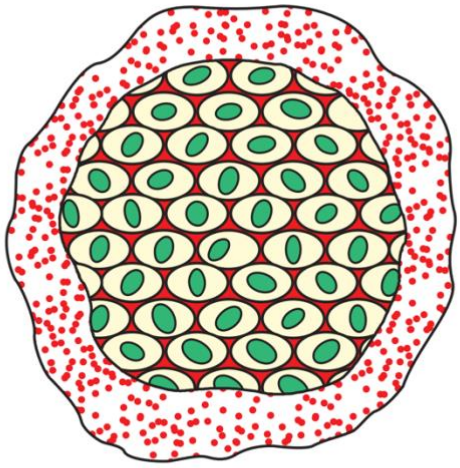
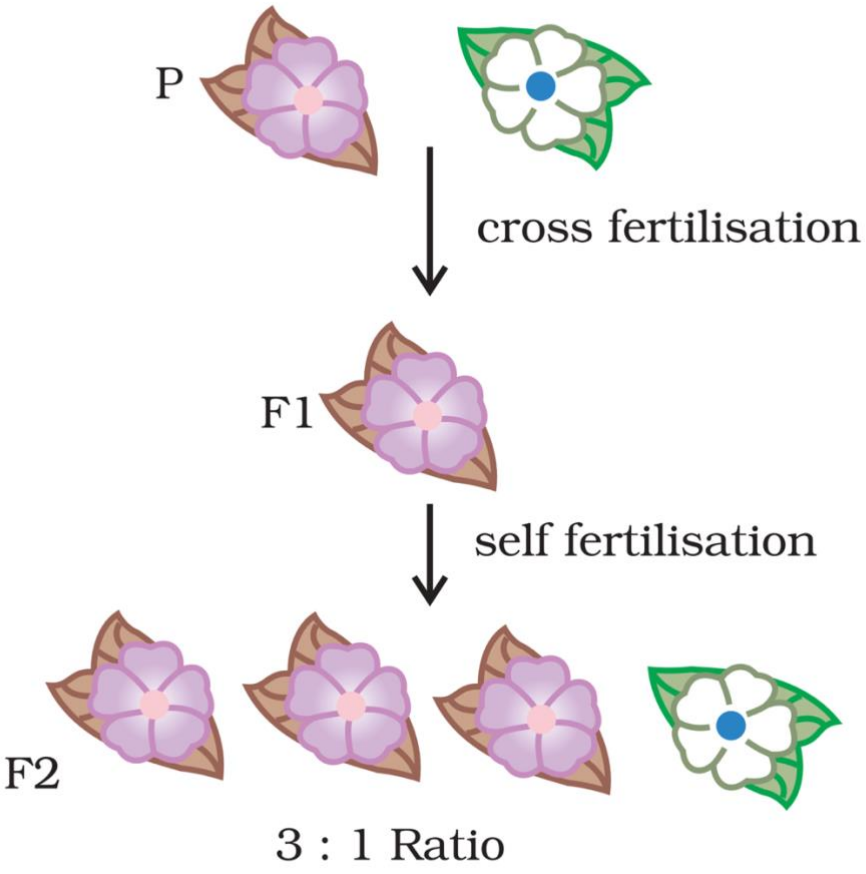
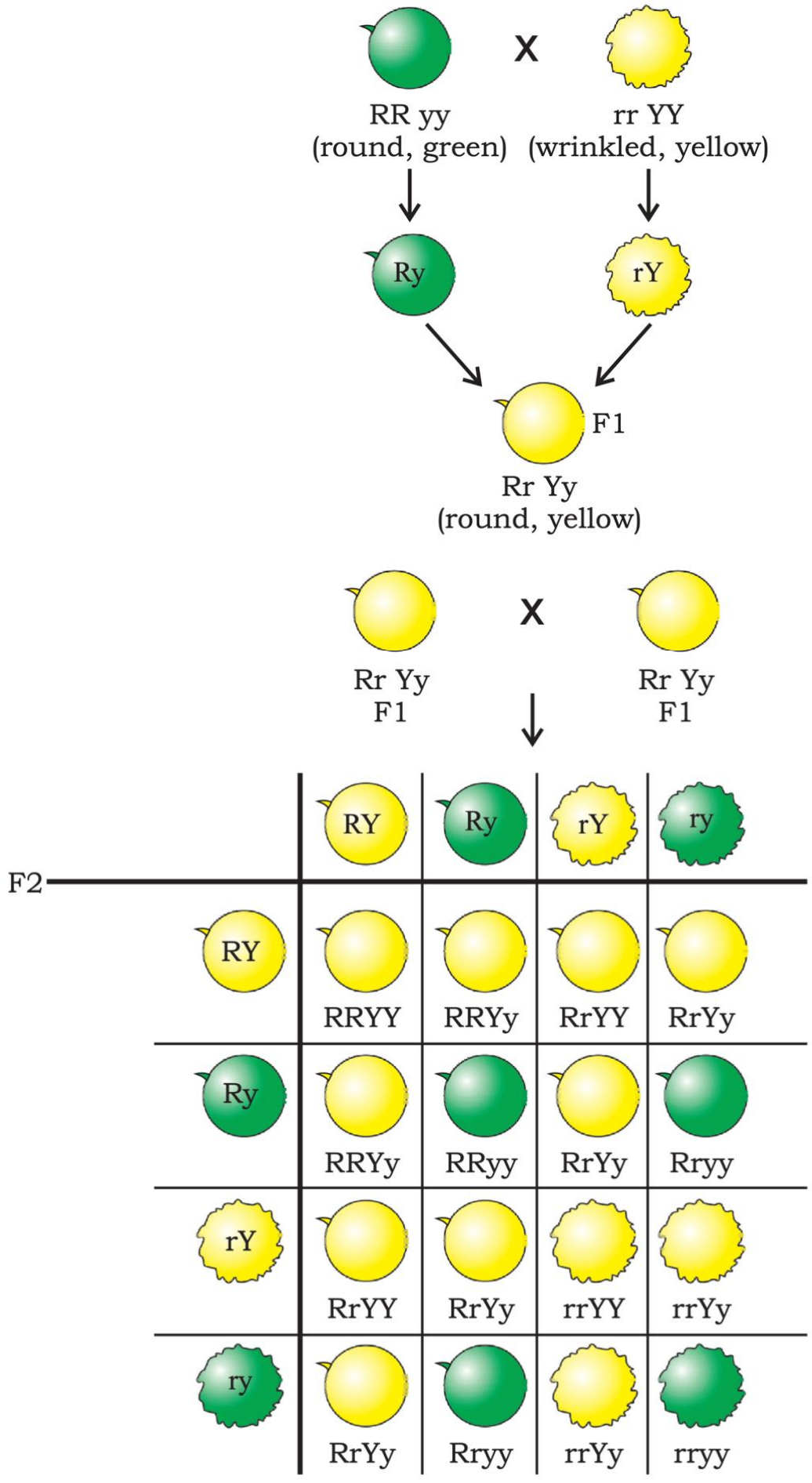


Figure 7.2
Multiple fission in Plasmodium

21) Monohybrid Cross

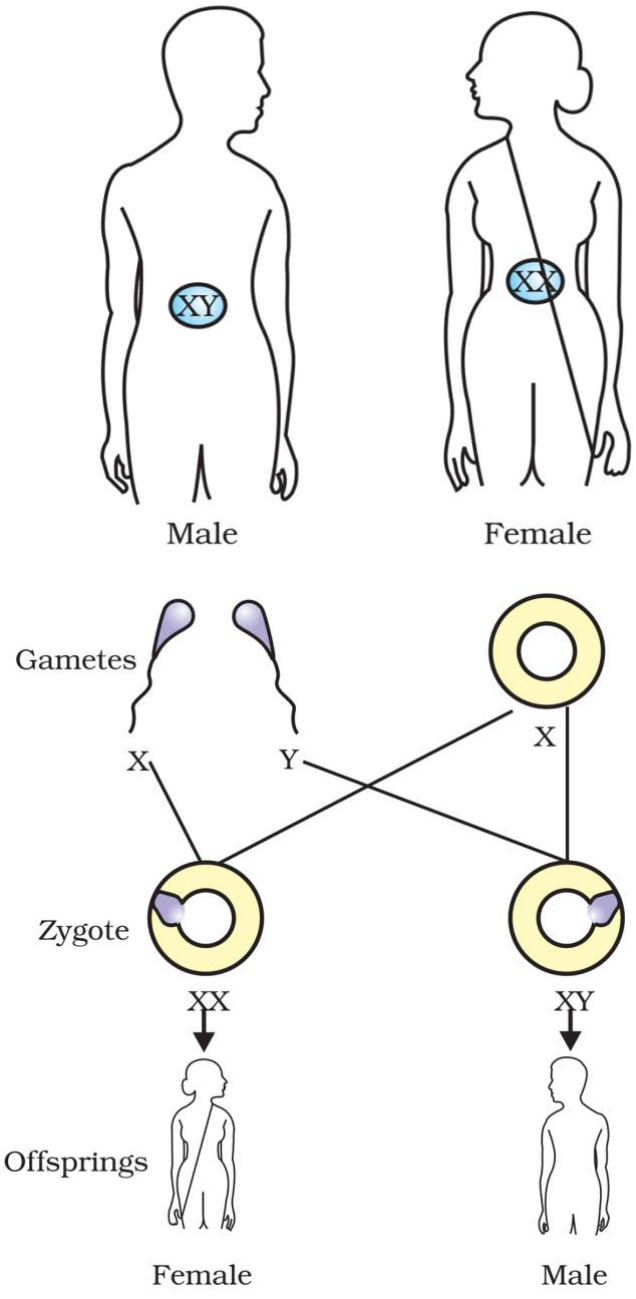


22) Dihybrid Cross

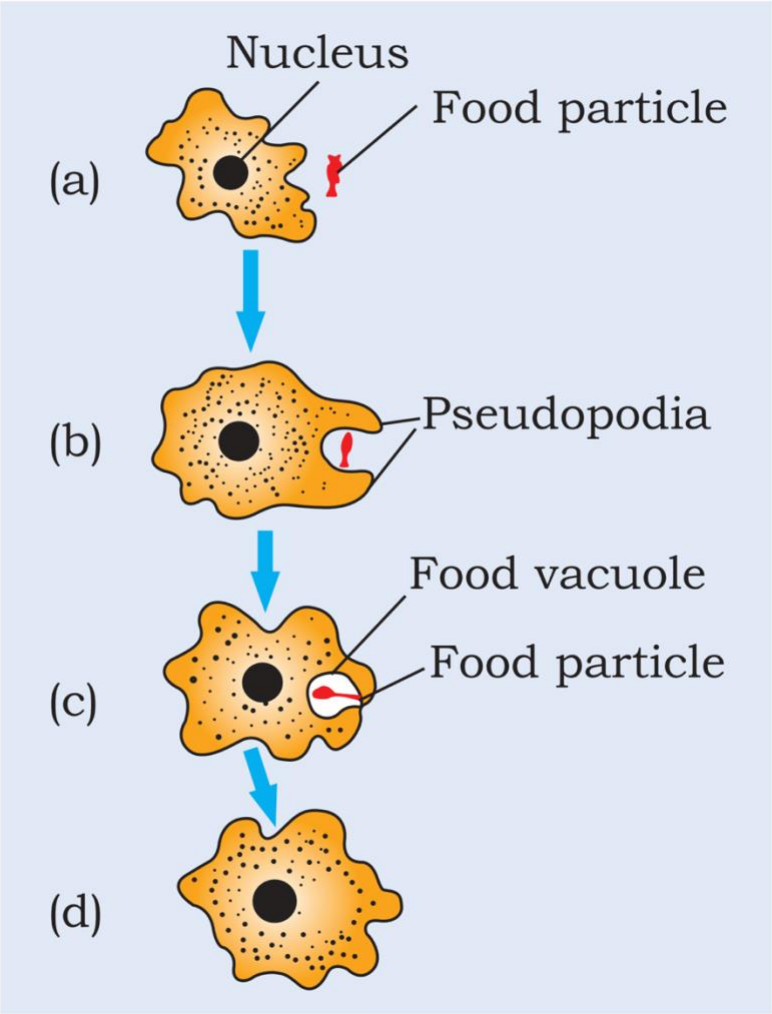


315 round, yellow		9
108 round, green		3
101 wrinkled, yellow		3
32 wrinkled, green		1
556 seeds		16

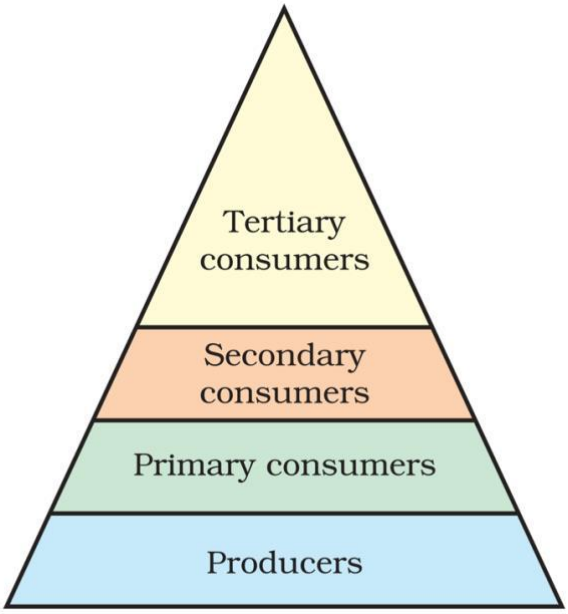
23) Sex Determination



24) Nutrition in Amoeba

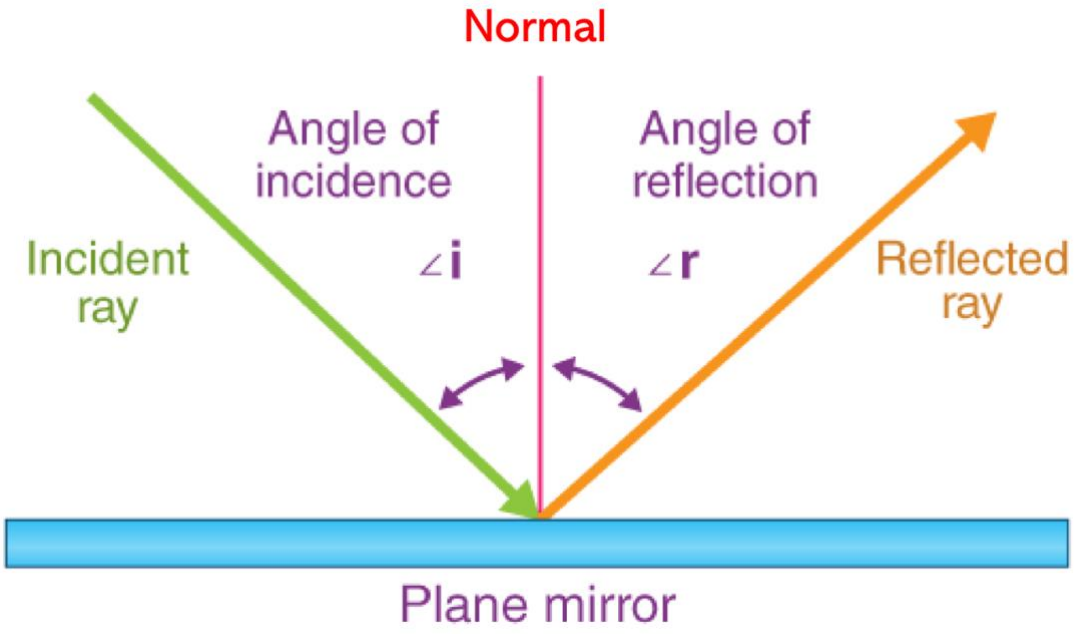


25) Trophic Levels

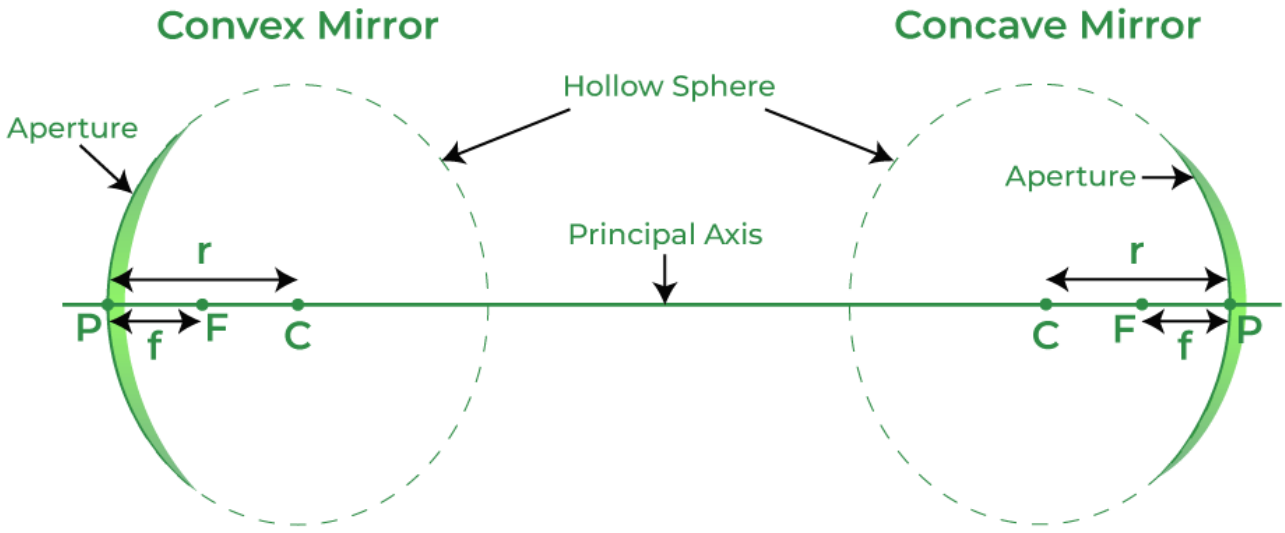


Physics Diagrams

1) Light ray on Plane Mirror



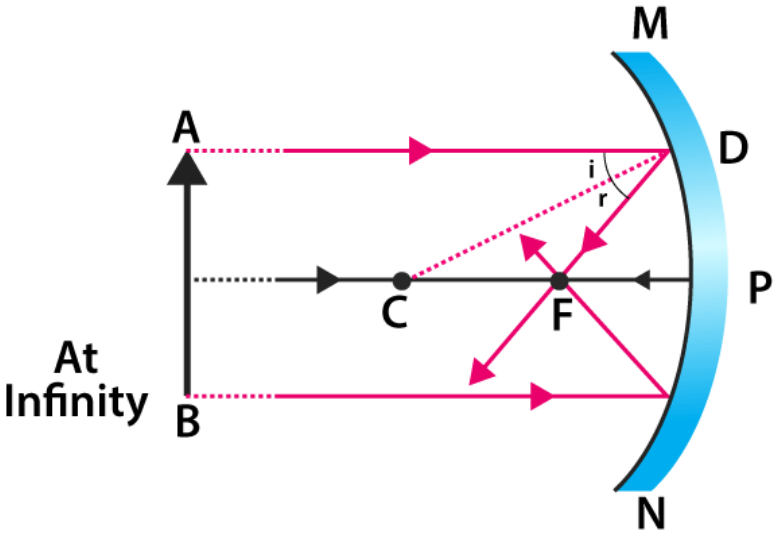
2) Spherical Mirror



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

CONCAVE MIRROR

1) Object placed at Infinity



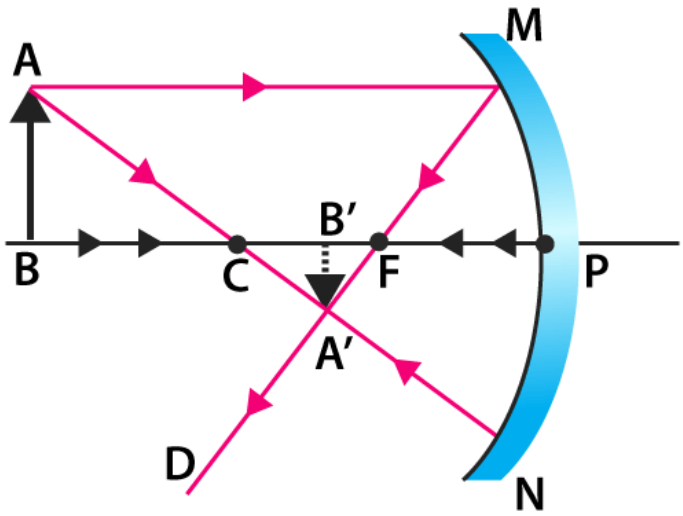
Image

Position – At 'F'

Nature – Real, Inverted

Size – Very Small

2) Object placed behind Center of Curvature



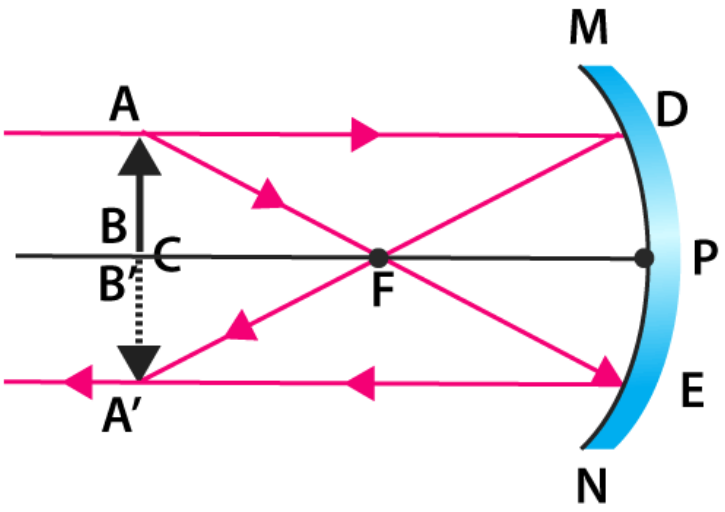
Image

Position – Between 'F' and 'C'

Nature – Real, Inverted

Size – Small

3) Object placed at Centre of Curvature



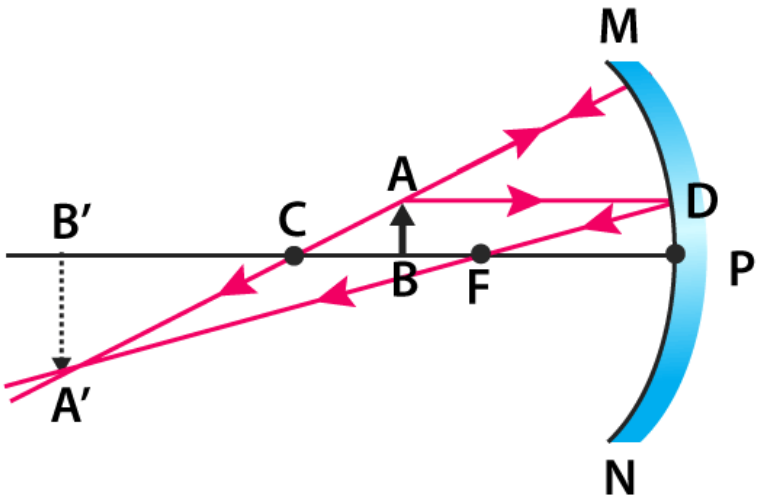
Image

Position – At 'C'

Nature – Real, Inverted

Size – Same Size

4) Object placed between Focus and Centre of Curvature



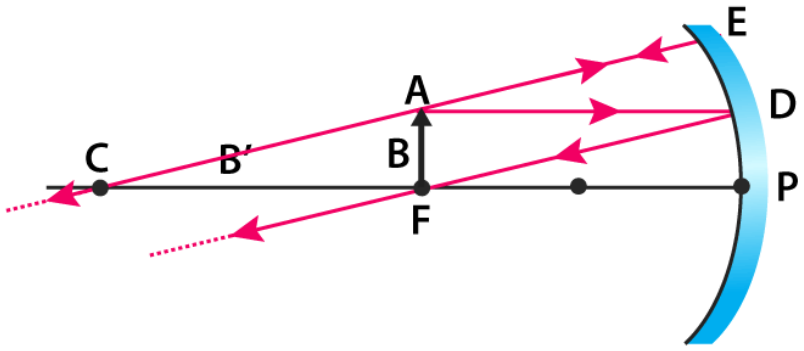
Image

Position – Beyond 'C'

Nature – Real, Inverted

Size – Big Size

5) Object placed at Focus



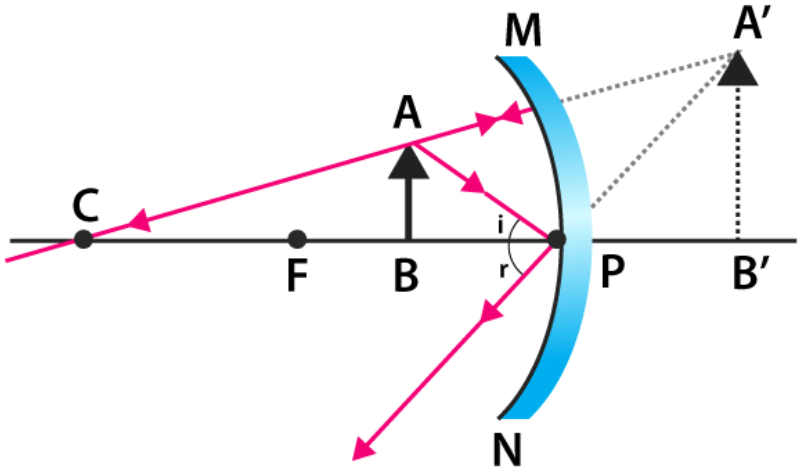
Image

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
At Infinity	At the focus F	Very Small	Real and Inverted
Beyond C	Between F and C	Small	Real and Inverted
At C	At C	Same Size	Real and Inverted
Between C and F	Beyond C	Big	Real and Inverted
At F	At Infinity	Very Big	Real and Inverted
Between F and P	Behind mirror	Big	Virtual and Erect

Uses of Concave Mirror –

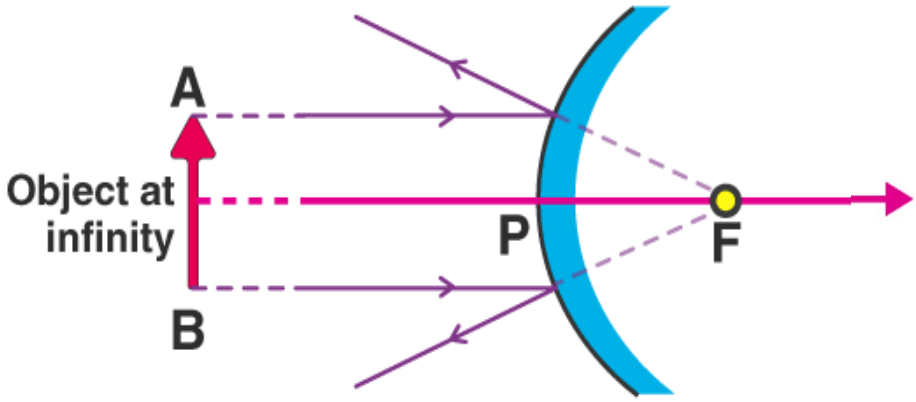
1) Shaving mirror, torch, dentists, solar furnace

Dentists using Concave Mirror

Solar Furnace

CONVEX MIRROR

1) Object placed at Infinity



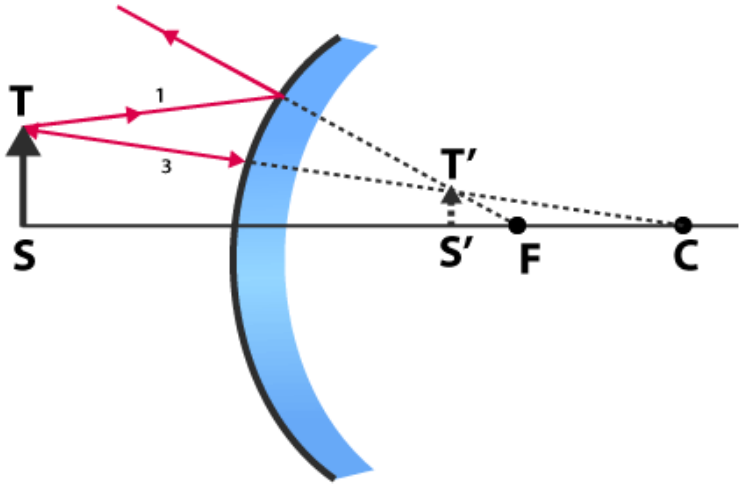
Image

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
At Infinity	At the focus F, Behind the mirror	Very Small	Virtual and Erect
Between Infinity and Pole	Between P and F, Behind the mirror	Small	Virtual and Erect

Uses of Convex Mirror -

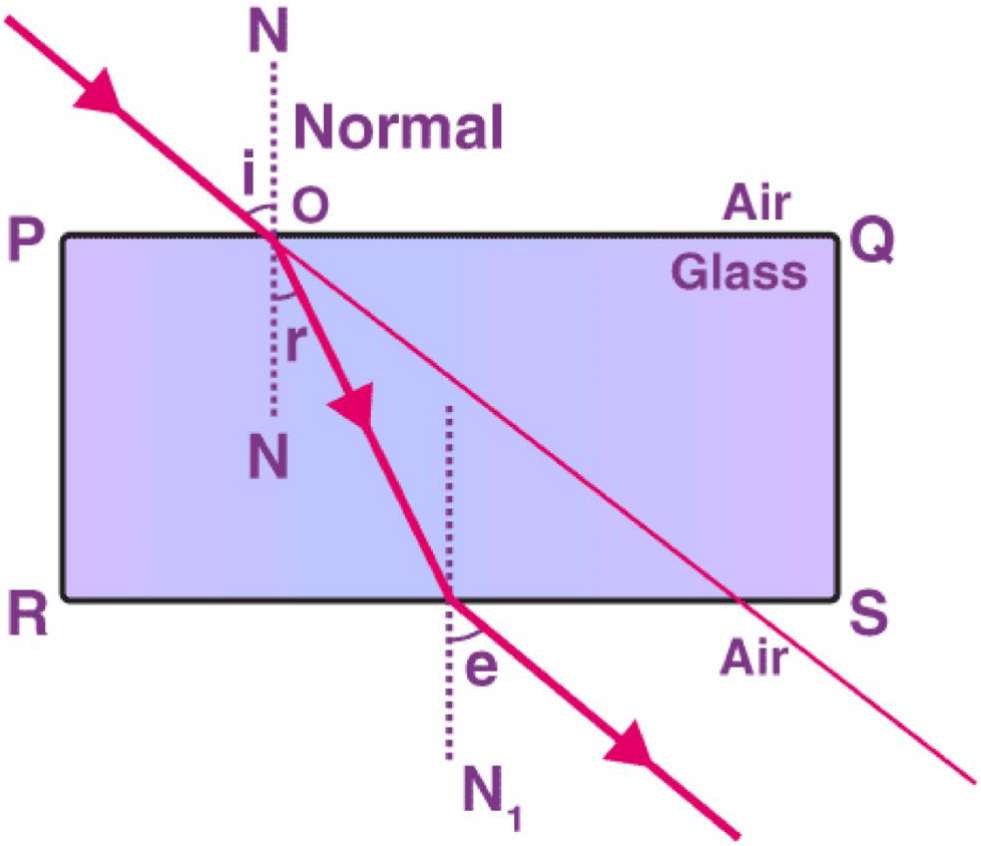
1) Rear view mirrors in vehicles because they always give an erect image and have wider field of view as they are curved outward.

2) Big convex mirrors used in front of Schools, Buildings, Shops.

Convex Mirror in front of School

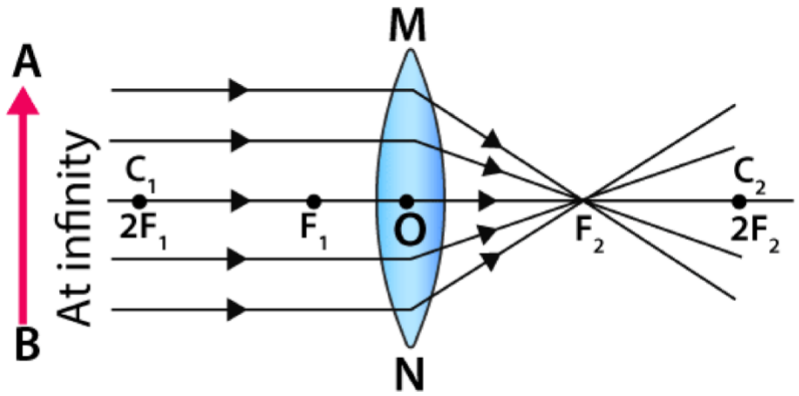
Car Mirror

3) Refraction through a Rectangular Glass Slab



CONVEX LENS

1) Object placed at Infinity



Image

Position – At 'F'

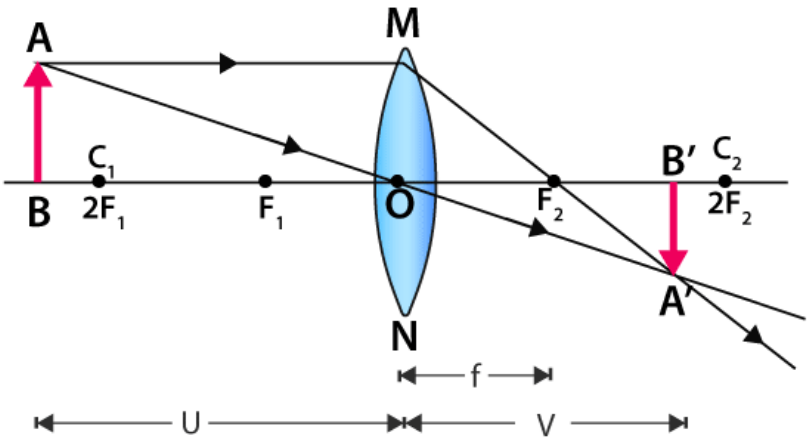
Nature – Real, Inverted

Size – Very Small

Burning Paper using Convex Lens

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

2) Object placed behind Center of Curvature



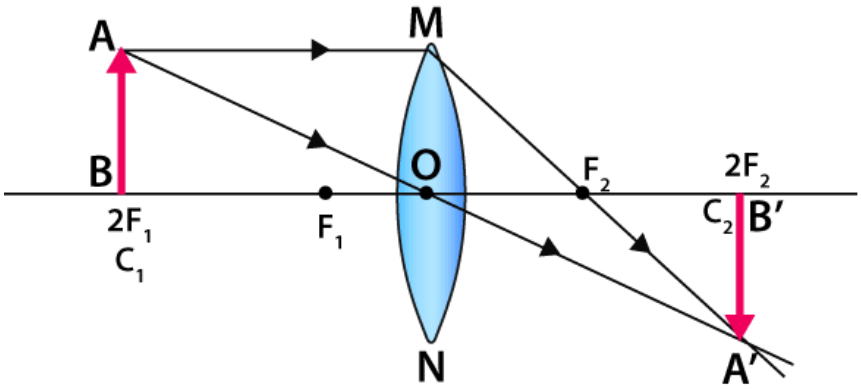
Image

Position – Between 'F' and 'C'

Nature – Real, Inverted

Size – Small

3) Object placed at Centre of Curvature



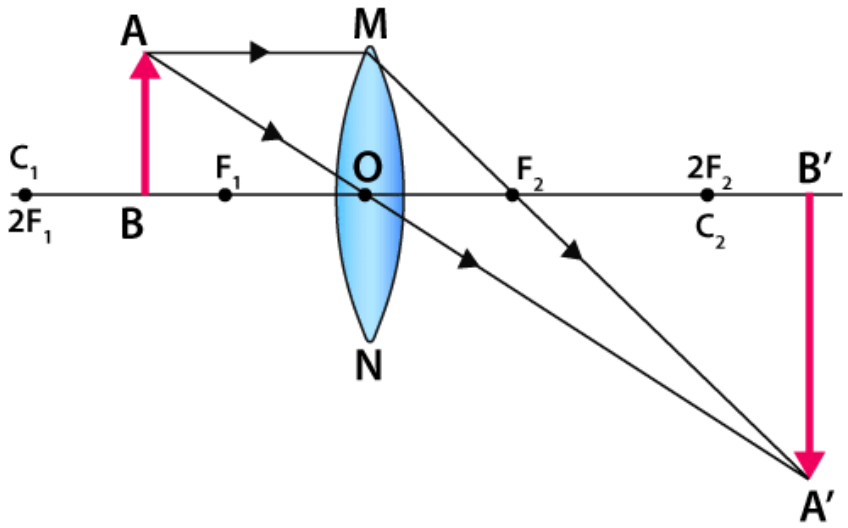
Image

Position – At 'C'

Nature – Real, Inverted

Size – Same Size

4) Object placed between Focus and Centre of Curvature



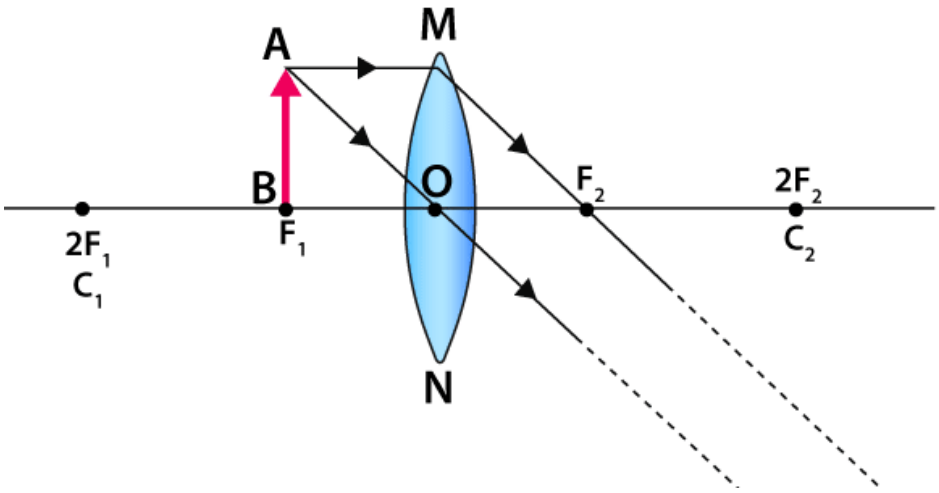
Image

Position – Beyond 'C'

Nature – Real, Inverted

Size – Big Size

5) Object placed at Focus



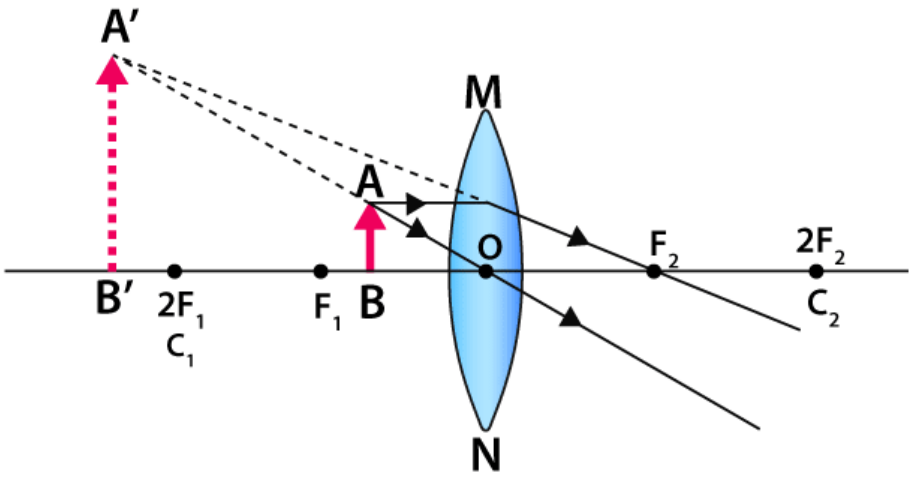
Image

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
At Infinity	At F_2	Very Small	Real and Inverted
Beyond $2F_1$	Between $2F_2$ and F_2	Small	Real and Inverted
Between $2F_1$ and F_1	Beyond $2F_2$	Big	Real and Inverted
At F_1	At Infinity	Very Big	Real and Inverted
At $2F_1$	At $2F_2$	Same Size	Real and Inverted
Between F_1 and O	On Same side of the Object	Big	Virtual and Erect

Uses of Convex Lens –

1) Used for making Microscopes, Magnifying glasses

Microscopes

Magnifying Glass

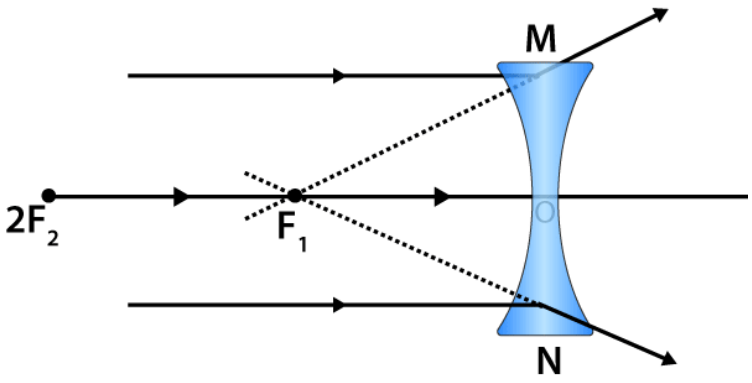
2) Used for making Specs and Cameras

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



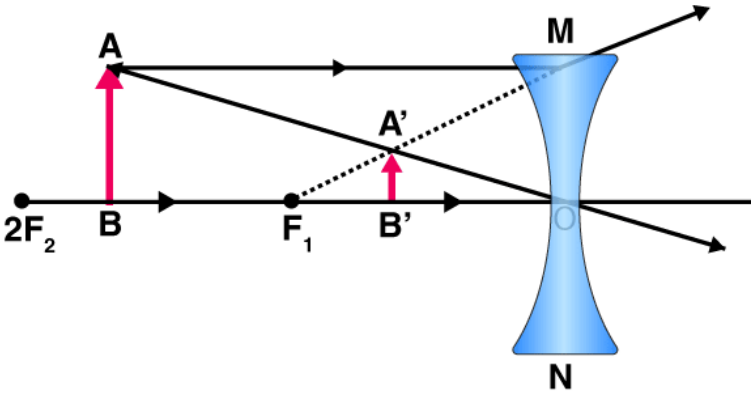
Image

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
At Infinity	At the focus (F_1)	Very Small	Virtual and Erect
Between Infinity and Optical Center	Between Focus (F_1) and Optical Center (O)	Small	Virtual and Erect

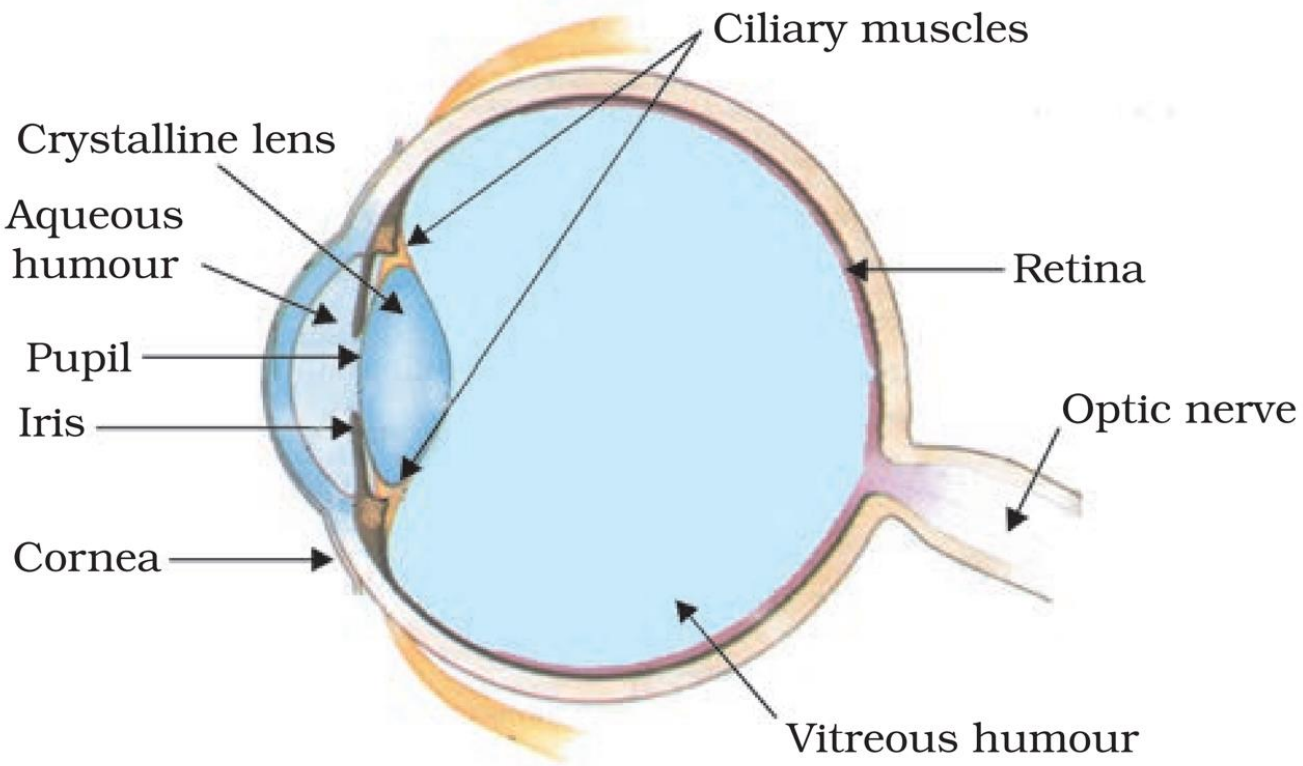
Uses of Concave Lens -

1) Used for making Specs, Lasers, Cameras

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

Laser Light

4) Human Eye



5) Dispersion of white Light

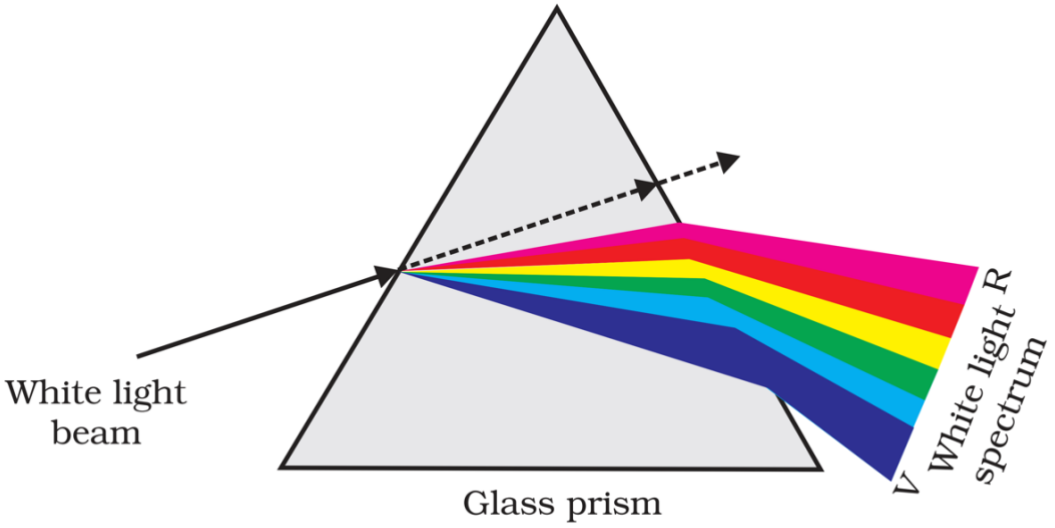
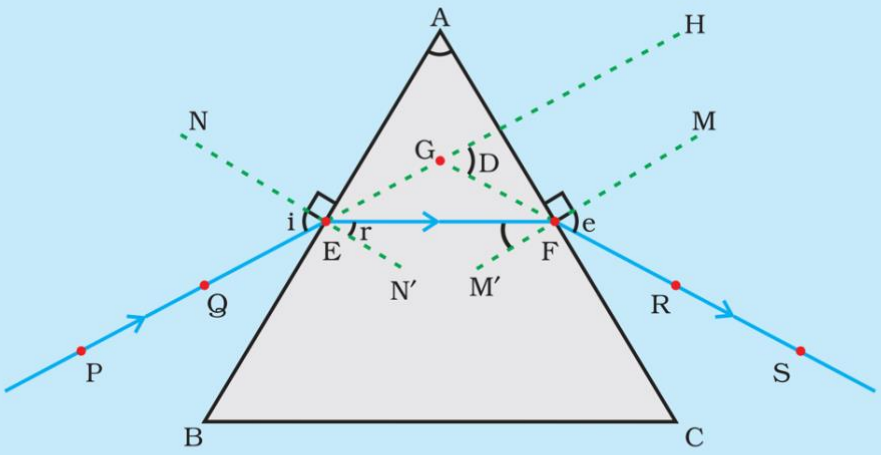


Figure 10.5 *Dispersion of white light by the glass prism*

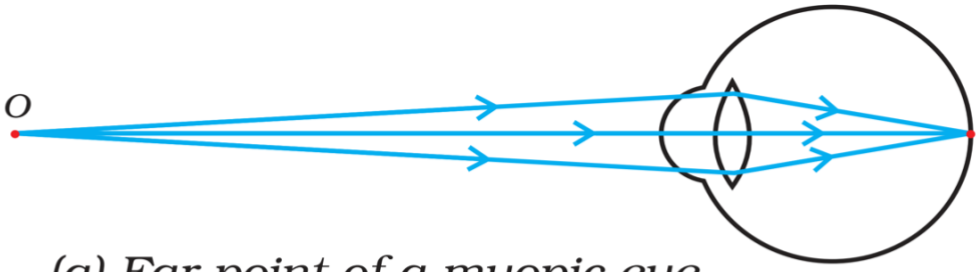
6) Refraction of Light trough a triangular glass prism



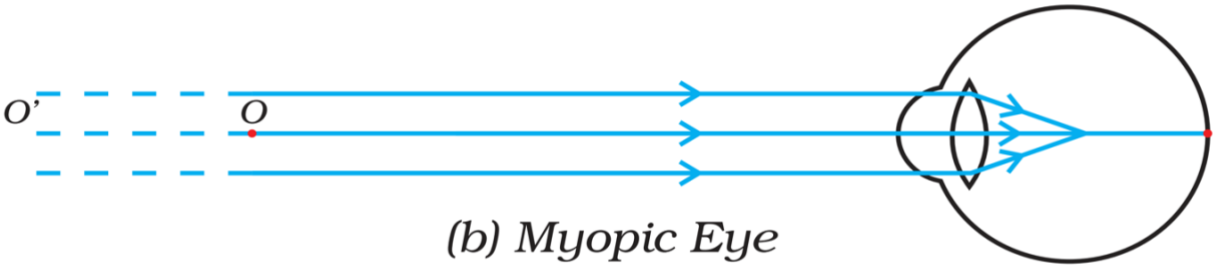
PE – Incident ray
EF – Refracted ray
FS – Emergent ray
∠A – Angle of the prism

∠i – Angle of incidence
∠r – Angle of refraction
∠e – Angle of emergence
∠D – Angle of deviation

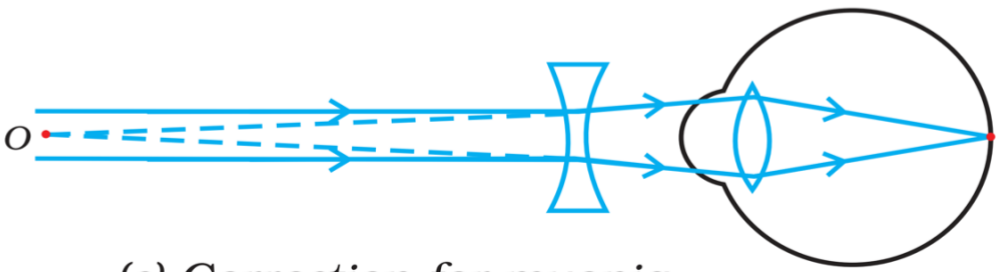
7) Myopia



(a) Far point of a myopic eye

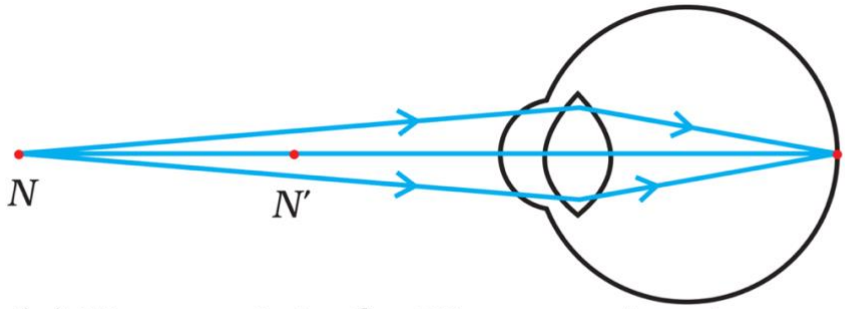


(b) Myopic Eye

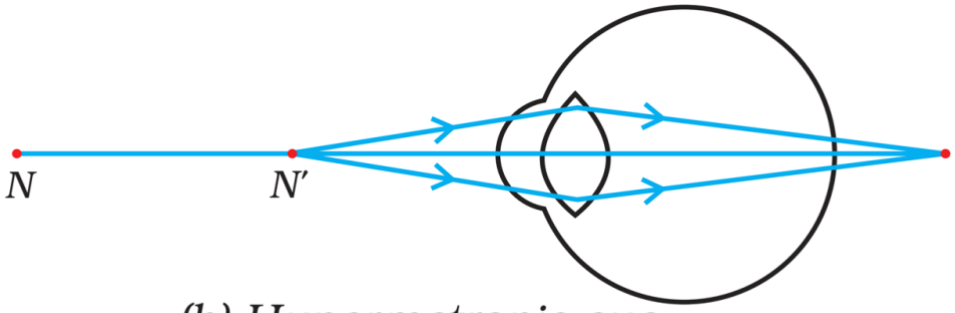


(c) Correction for myopia

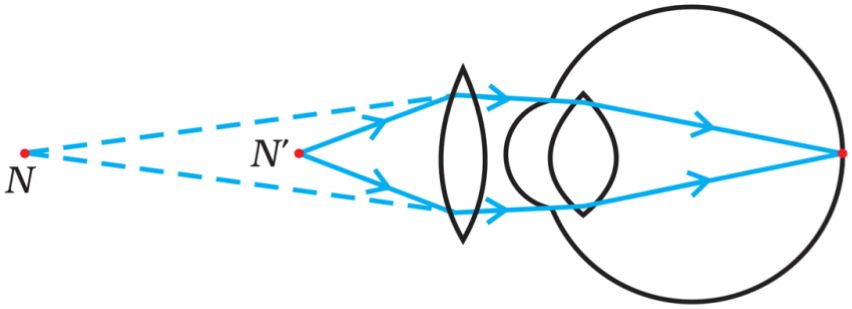
8) Hypermetropia



(a) Near point of a Hypermetropic eye

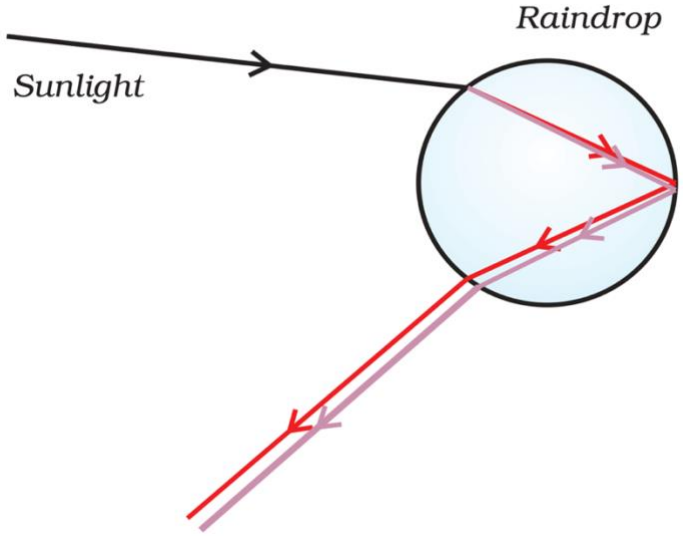


(b) Hypermetropic eye

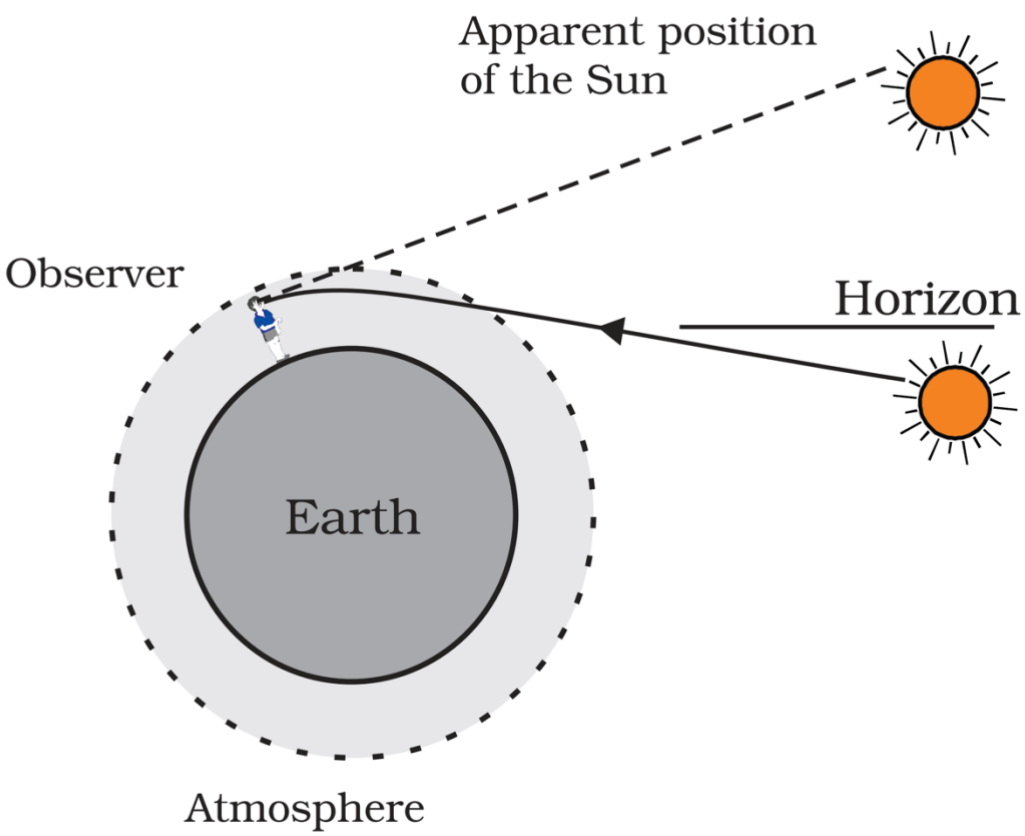


(c) Correction for Hypermetropic eye

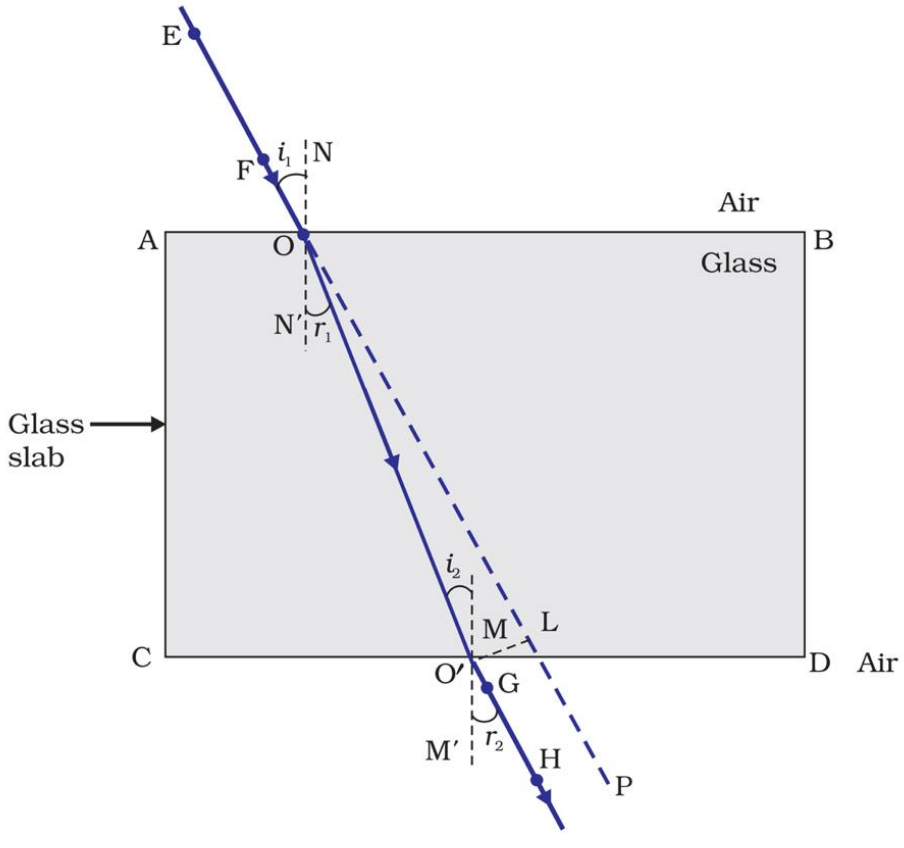
9) Rainbow Formation



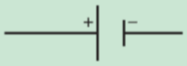
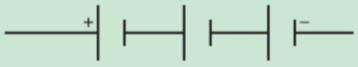
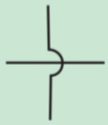
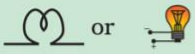
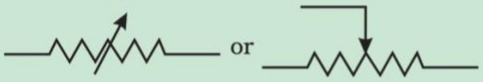
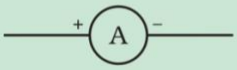
10) Apparent star position due to Atmospheric Refraction



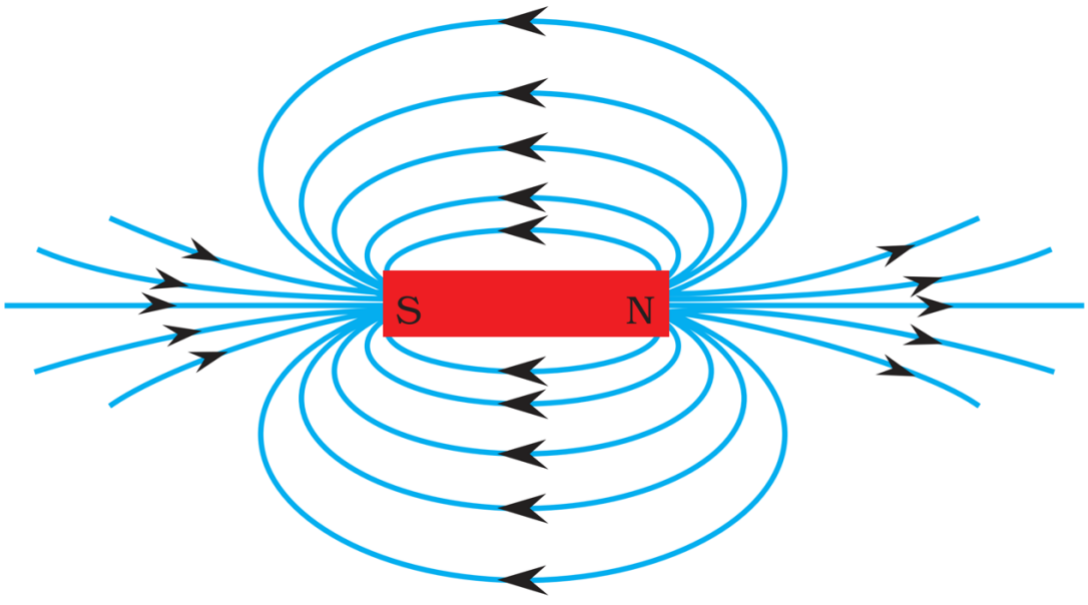
11) Refraction through Glass Slab



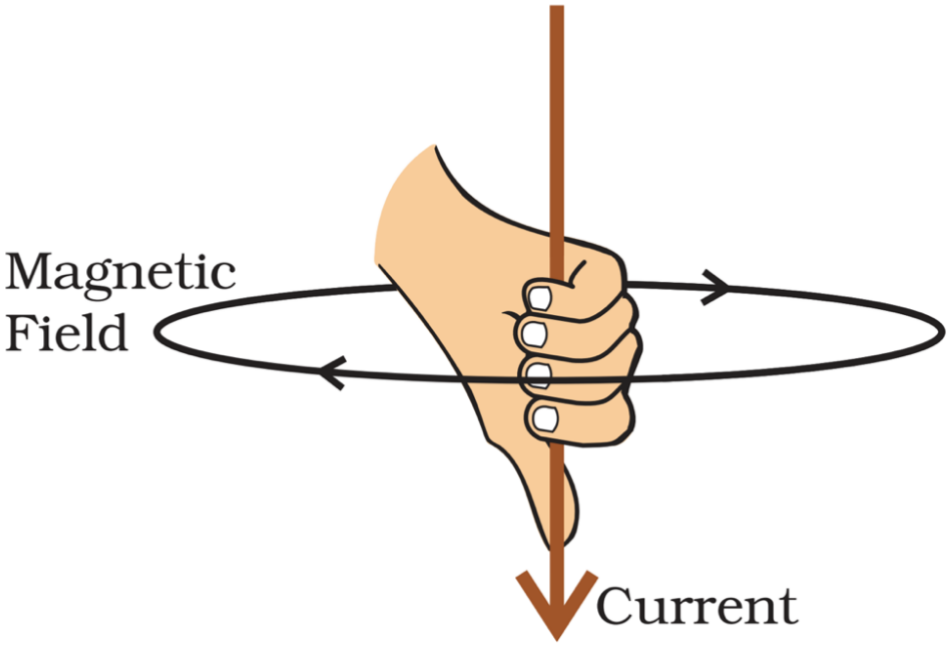
12) Symbols of Electric Circuits

Sl. 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	

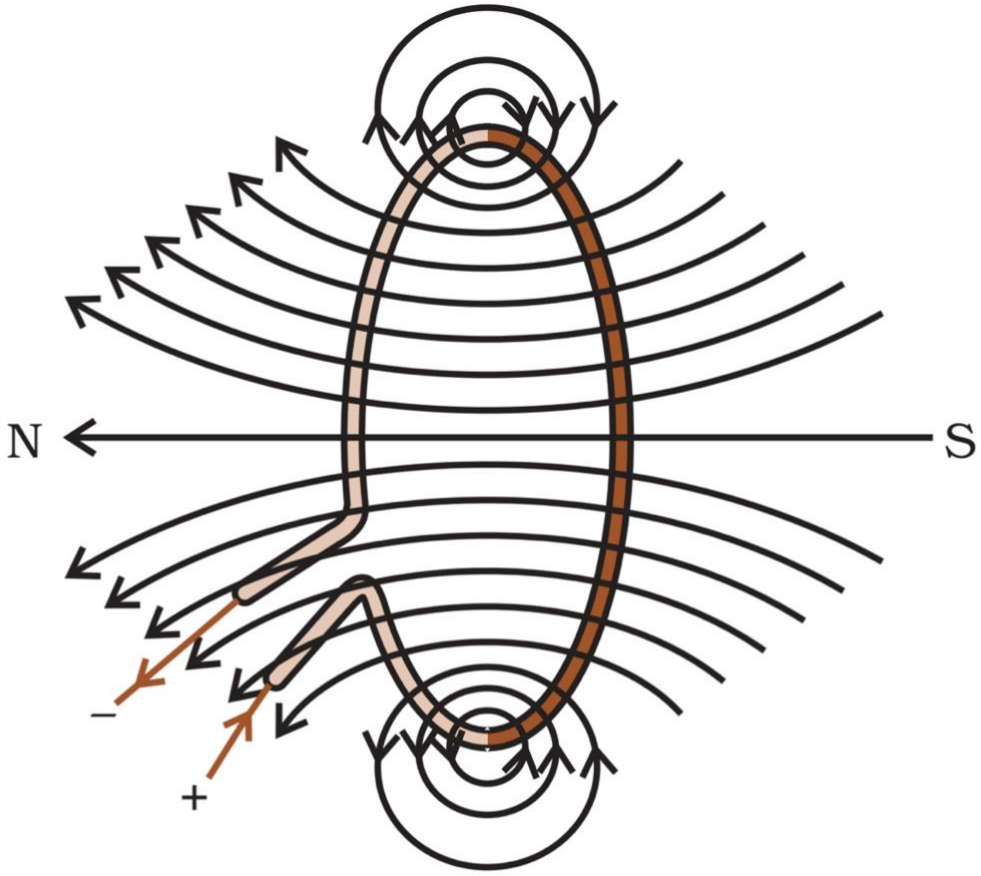
13) Magnetic Field Lines around Bar



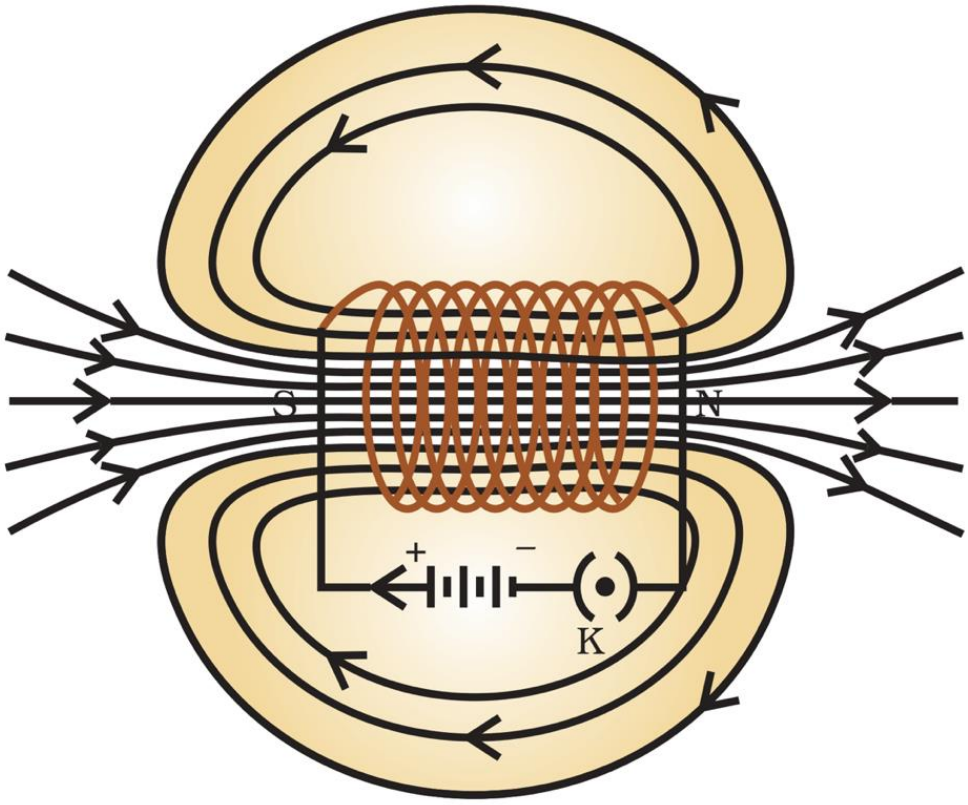
14) Right-Hand Thumb Rule



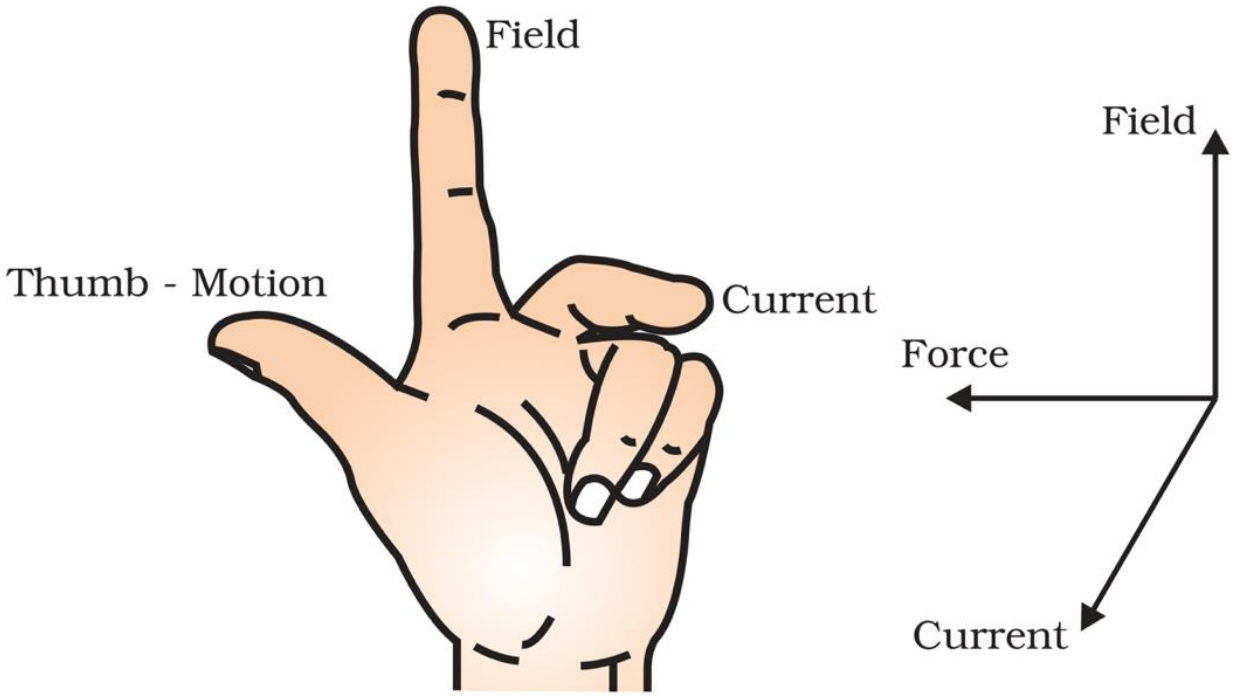
15) Magnetic Field Lines by Current carrying Conductor



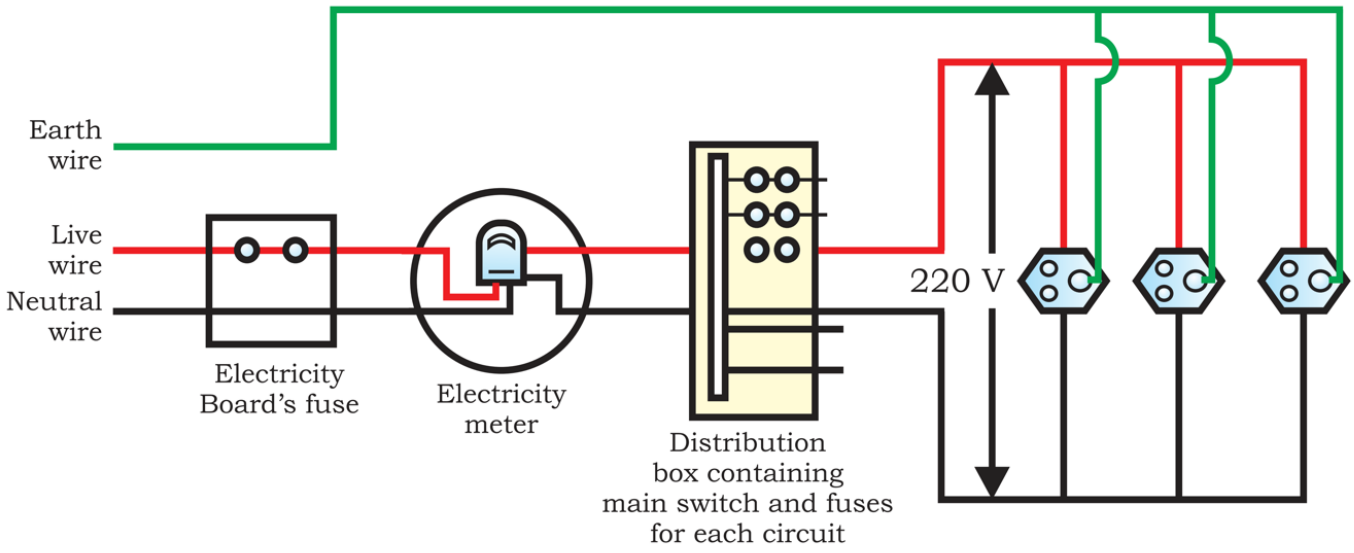
16) Magnetic Field Lines through Solenoid



17) Fleming's Left-Hand Rule

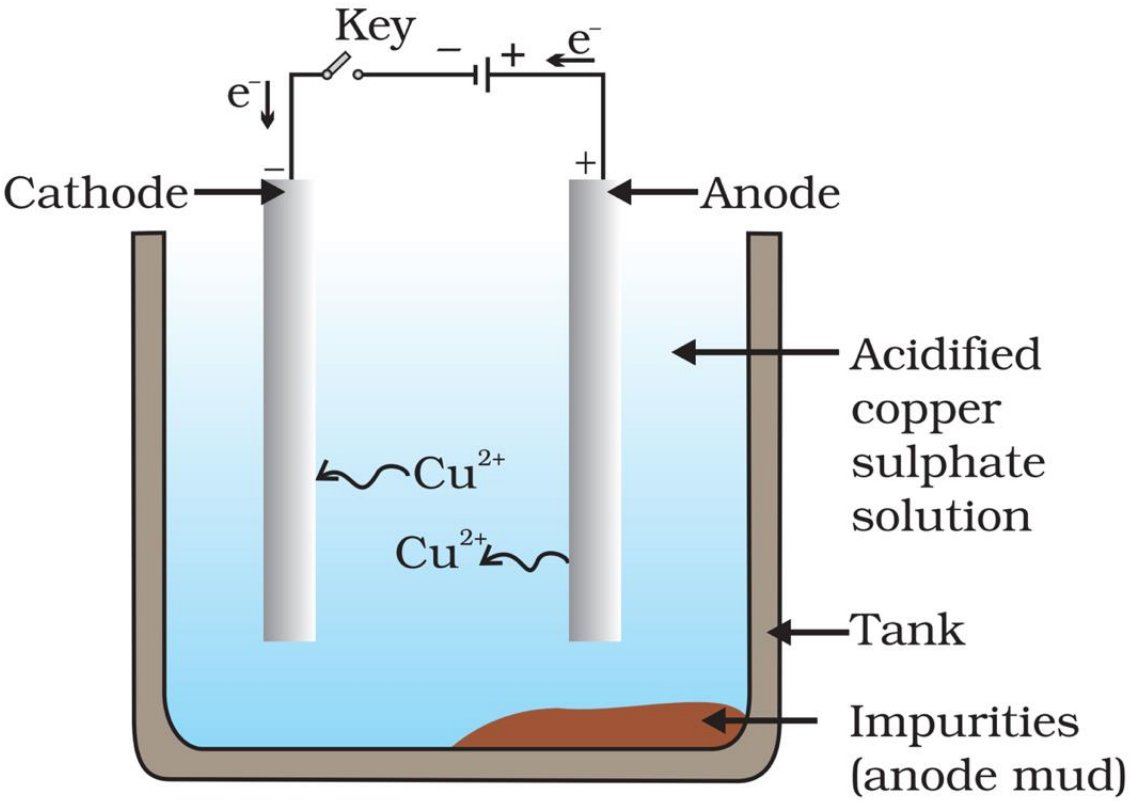


18) Diagram of Common Domestic Circuit

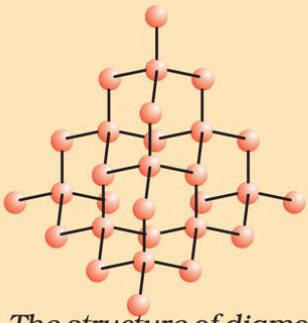


Chemistry Diagrams

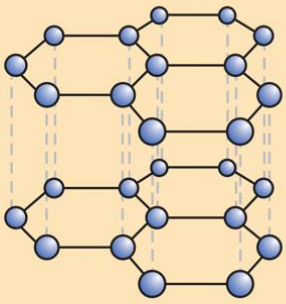
1) Electrolytic Refining of Copper



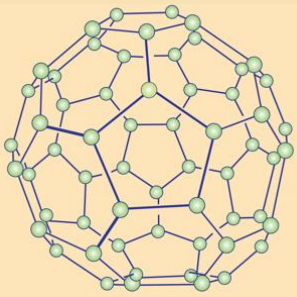
2) Different Structures of Carbon



The structure of diamond



The structure of graphite



The structure of C-60 Buckminsterfullerene

3) Structure of Soap