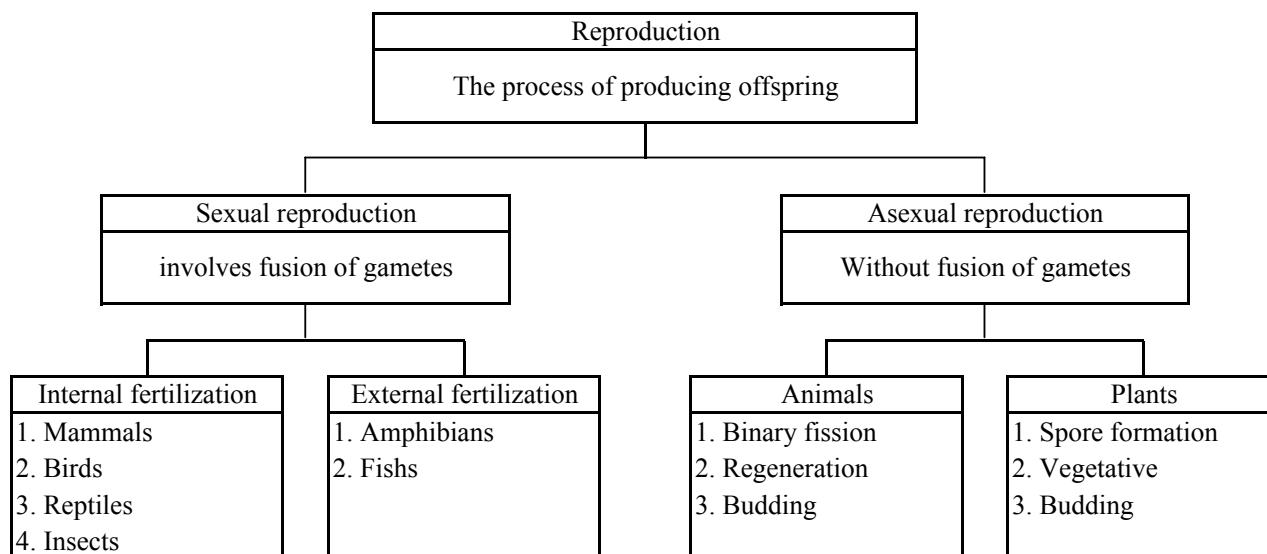
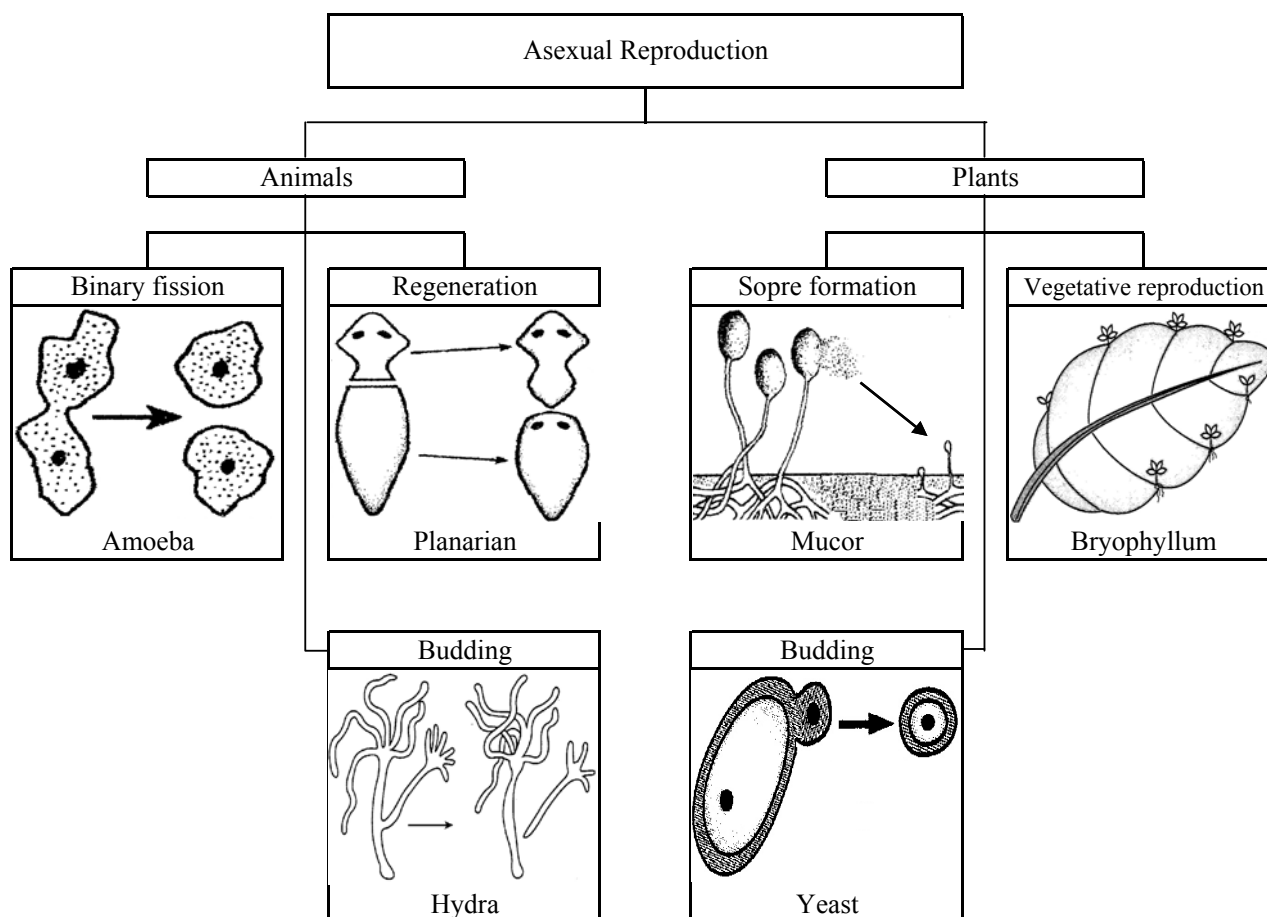


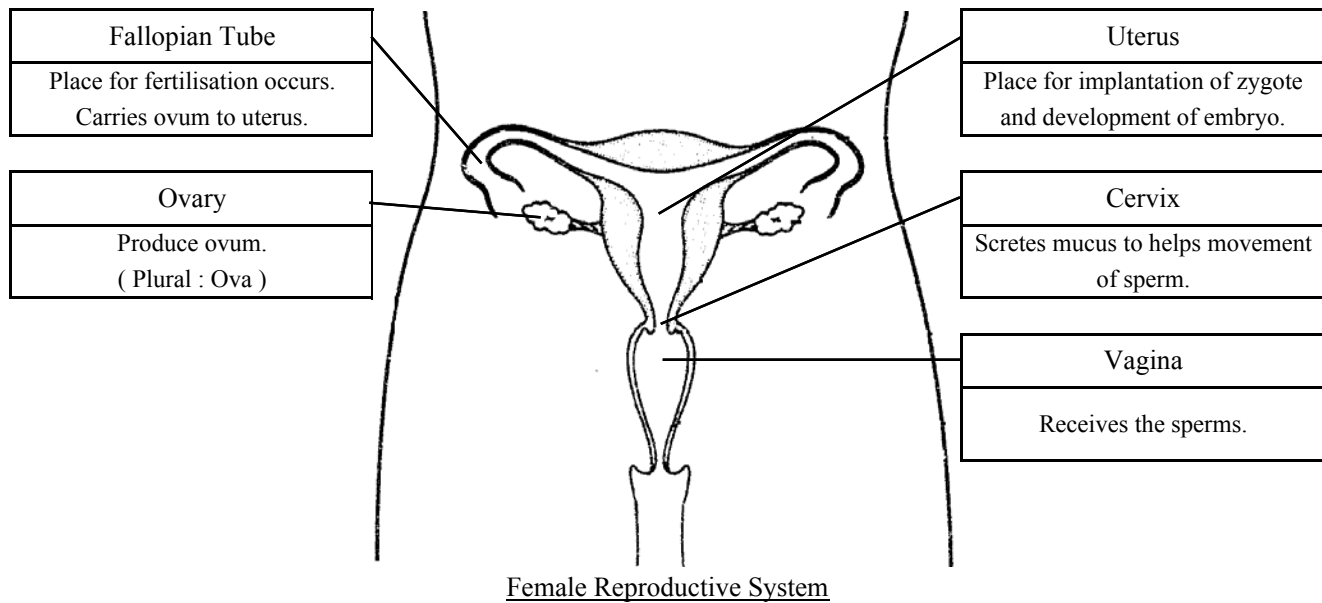
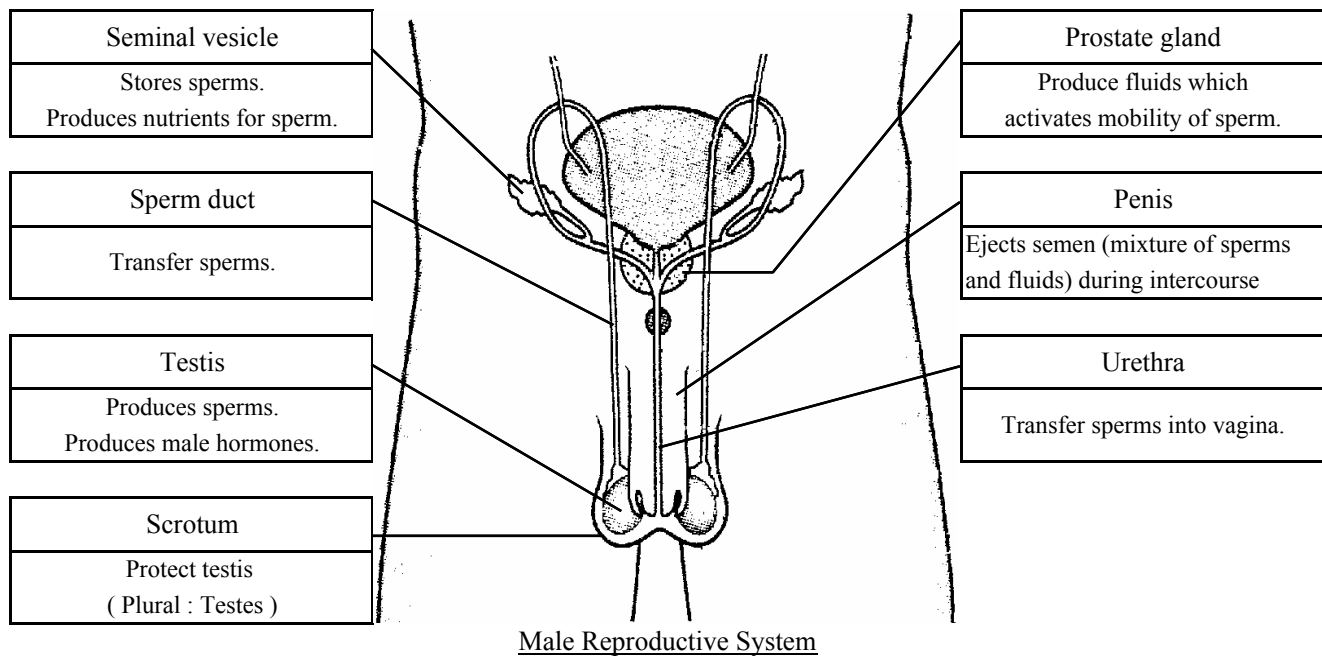
1 Classification of reproduction.




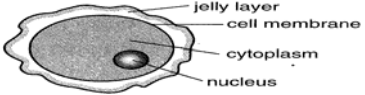
2 Classification of asexual reproduction.



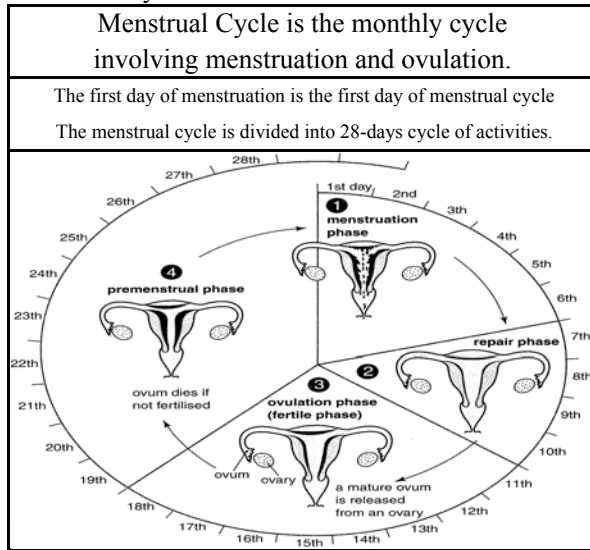
3 Human Reproductive System :



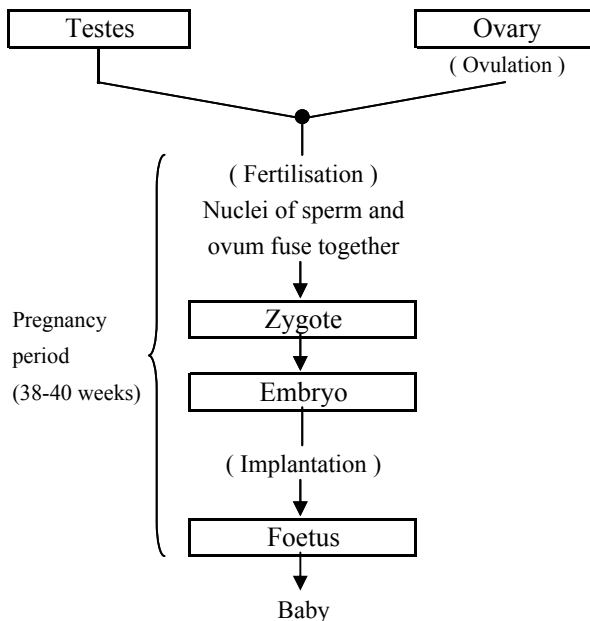
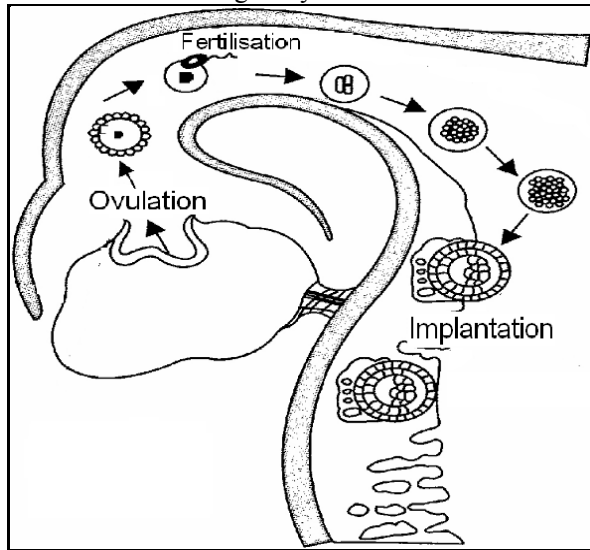
4 Comparison between male and female gametes :

Types of gamete (Reproductive cell)		Size	Quantity	Mobility	Lifespan
Sperm		Smallest cell in the male body (0.01 mm - 0.05 mm)	Millions	Mobile	72 hours
Ovum		Largest cell in the female body (diameter : 0.02 mm)	One	Not mobile	24 hours

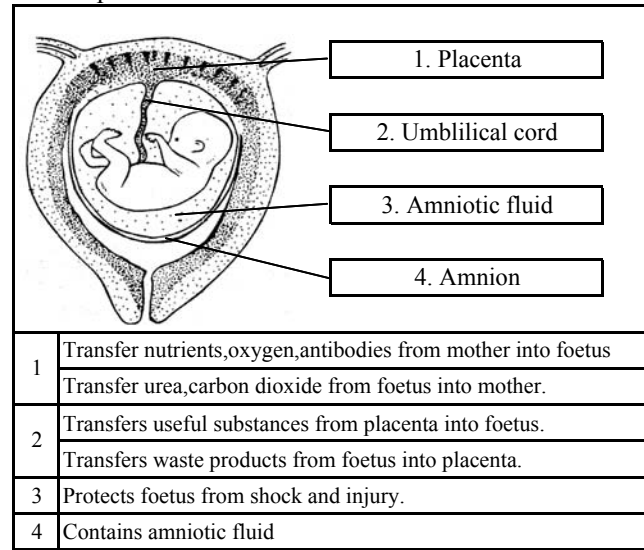
5 Menstrual cycle :



6 Fertilisation and Pregnancy :



7 Development of foetus :



8 Importance of Pre-natal care

● Take healthy diet

Nutrient	Functions
Protein	Formation of new tissues of foetus
Iron	Formation of red blood cells of foetus
Folic acid	Strengthens immune system of foetus
Vitamins	Strengthens immune system of foetus

● Prevent take harmful substances :

Substances	Effets
Smoking	Abnormal brain development in foetus
Alcohol	Slowdown development of foetus
Drugs	Cause deformities in foetus

9 Importance of research in human reproduction :

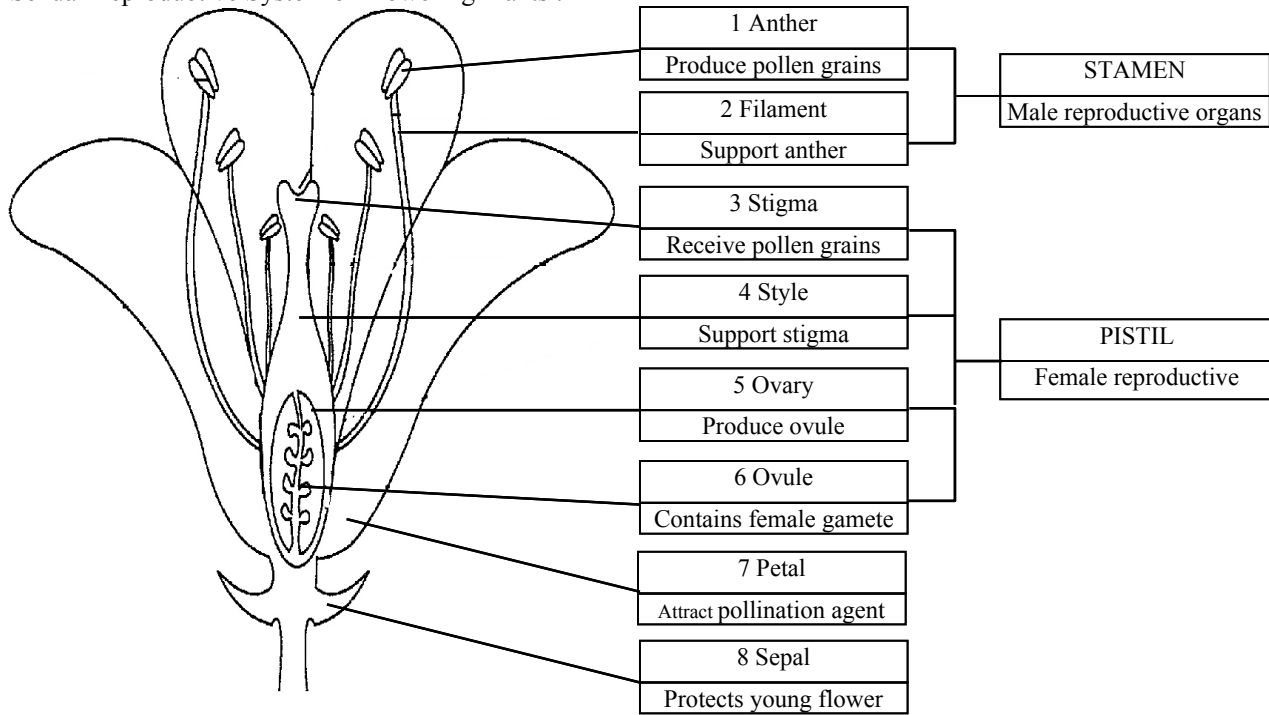
● Overcome sterility :

- Drug treatment
- Surgery
- In vitro method

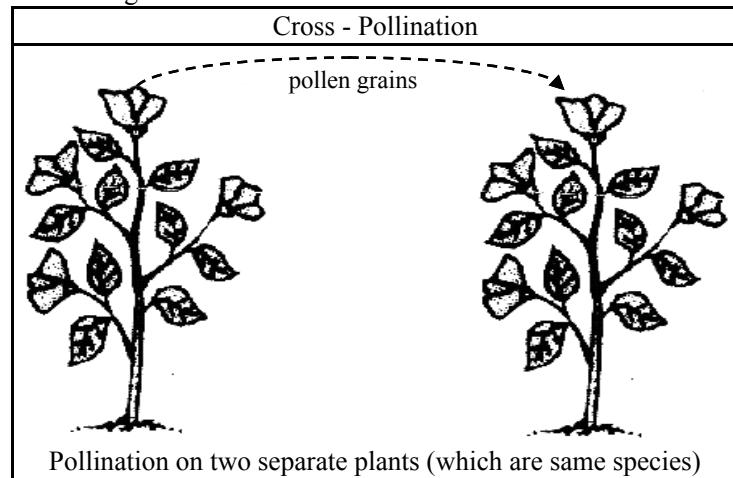
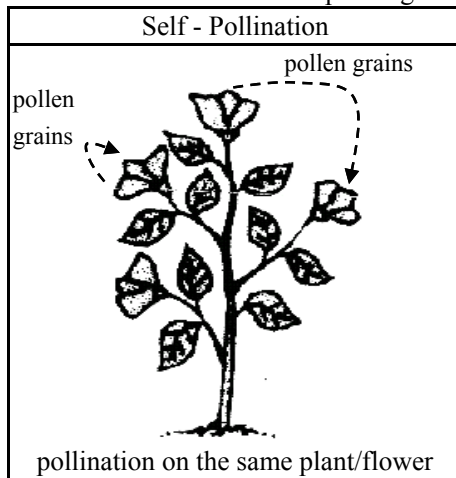
● Birth control or contraception :

- Preventing ovulation
 - Taking contraceptive pills
- Preventing fertilisation
 - Using condom
 - Natural method (Rhythm method)
 - Using a diaphragm
- Preventing implantation of fertilised ovum
 - Uses Intrauterine Contraceptive Device (IUCD)
 - Vasectomy (Male sterilisation)
 - Ligation / Tubectomy (Female sterilisation)

10 Sexual Reproductive System of Flowering Plants :



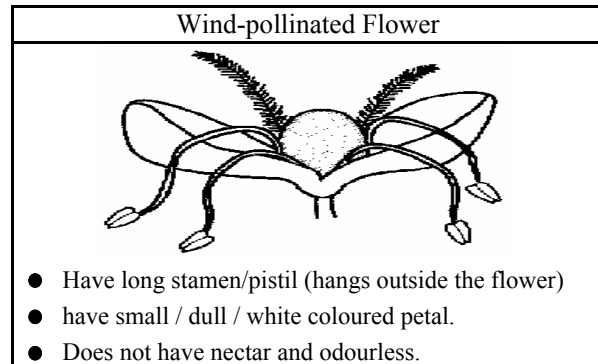
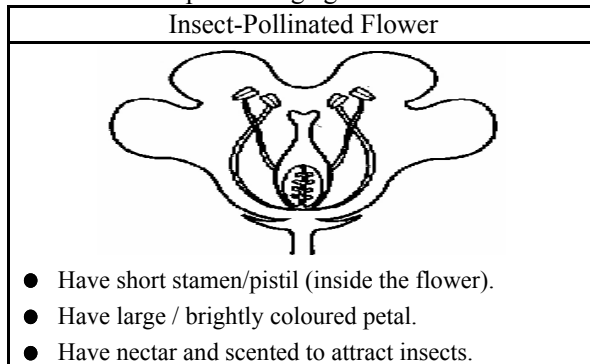
11 Pollination is the transfer of pollen grains from anther to stigma.



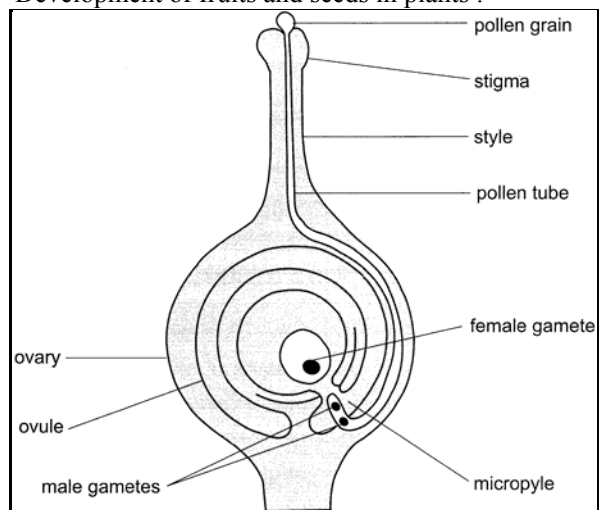
12 Cross pollination allows combination of the good characteristics from both parent plants :

- Produce fruits/seeds of better quality.
- More resistant to diseases.
- Able to survive when environmental change occur.

13 Pollination and pollinating agents :

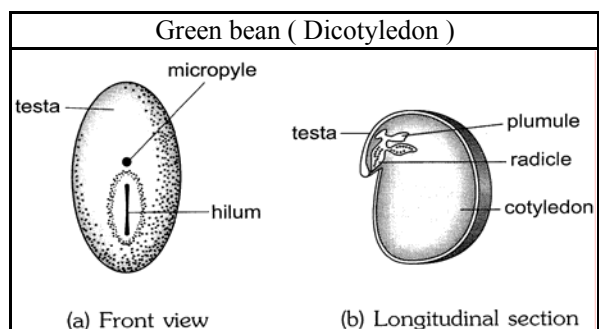
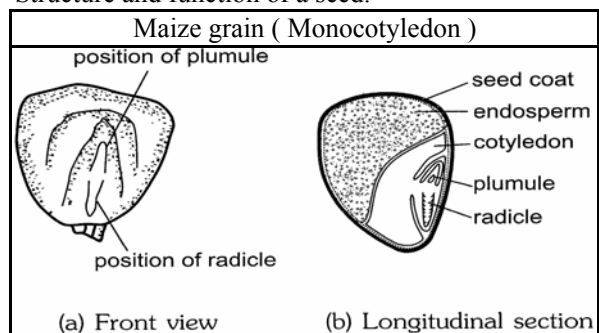


14 Development of fruits and seeds in plants :



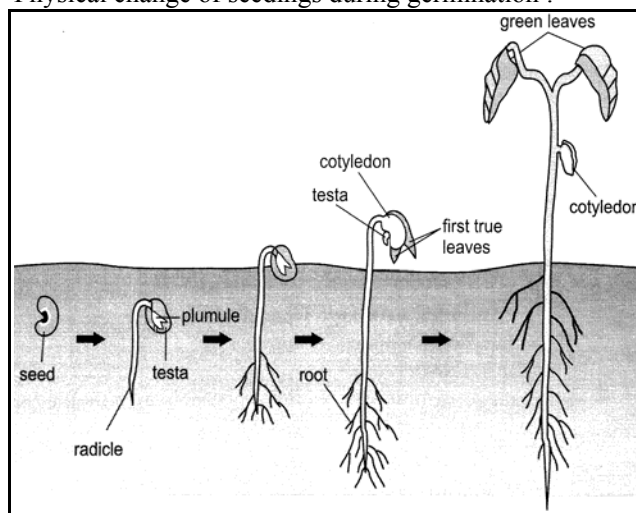
1. Pollen grains which landed on stigma, stimulates by sugary substances formed a pollen tube.
2. The pollen tube grows downwards through the style and reaches the ovule.
3. The pollen tube then breaks down, allow the male gametes enter into ovule, fuse with ovum to form a zygote.
4. After fertilisation, the ovule develops into seed while ovary becomes the fruit.

15 Structure and function of a seed.

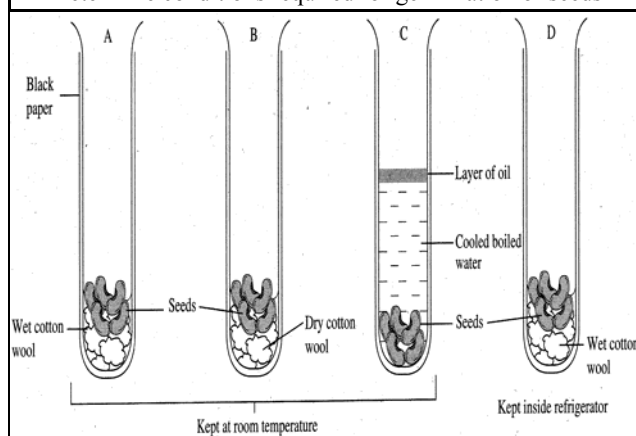


Structure	Functions
Testa	Protects the seed
Micropyle	Allows air and water to enter into the seed
Cotyledon	Stores and provides foods.
Plumule	Part of embryo which develops into shoot
Radicle	Part of embryo which develops into root

16 Physical change of seedlings during germination :



17 Determine conditions required for germination of seeds

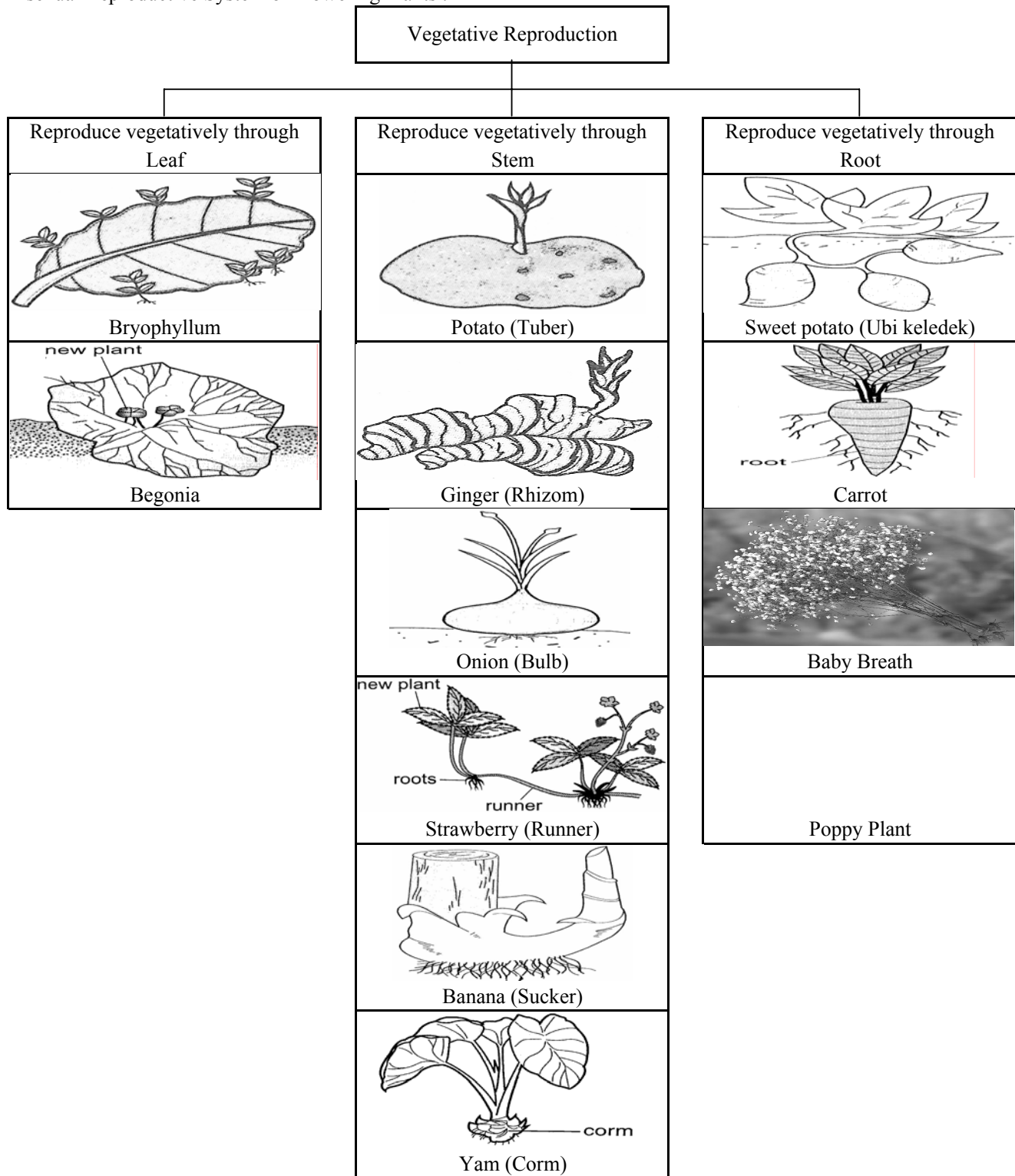


Boiling tube	Water	Air	Suitable temperature	Germinate
A	✓	✓	✓	✓
B	X	✓	✓	X
C	✓	X	✓	X
D	✓	✓	X	X

Germination requires water, air and a suitable temperature.

Substances	Functions
Water	1. Softens the testa 2. Activates enzymes stored food in cotyledon
Air	Needed for cell respiration.
Suitable temperature	Optimum enzyme temperature

18 Asexual Reproductive System of Flowering Plants :



19 Application of research on vegetative reproduction in agriculture :

- Tissue culture
- Stem cuttings