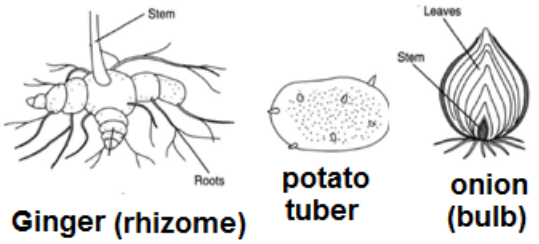
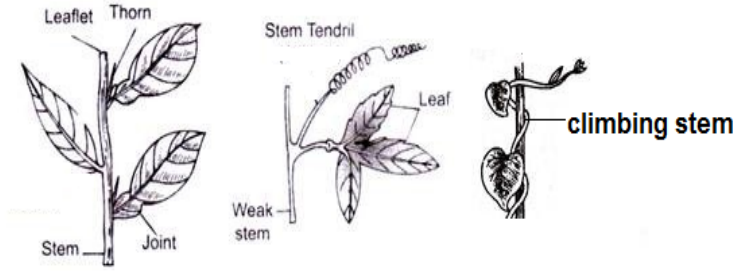
ICSE CLASS 6 BIOLOGY
THE PLANT STRUCTURE AND FUNCTIONS

MODIFICATIONS OF ROOTS

| | |
|---|---|
|  | For storage of food e.g. radish, carrot, turnip, beetroot |
|  | For additional support: Prop roots grow vertically downwards from the branches and reach the ground e.g. banyan |

MODIFICATIONS OF STEMS

| | |
|---|---|
|   | Underground modification of stem<br>These store a large quantity of food |
|   | Aerial modifications of stem<br>Tendril (for support) e.g. grapevine, gourd<br>Thorn (for protection) e.g. rose, lemon<br>Twiner (for climbing) e.g. betel, money plant |

LEAVES:

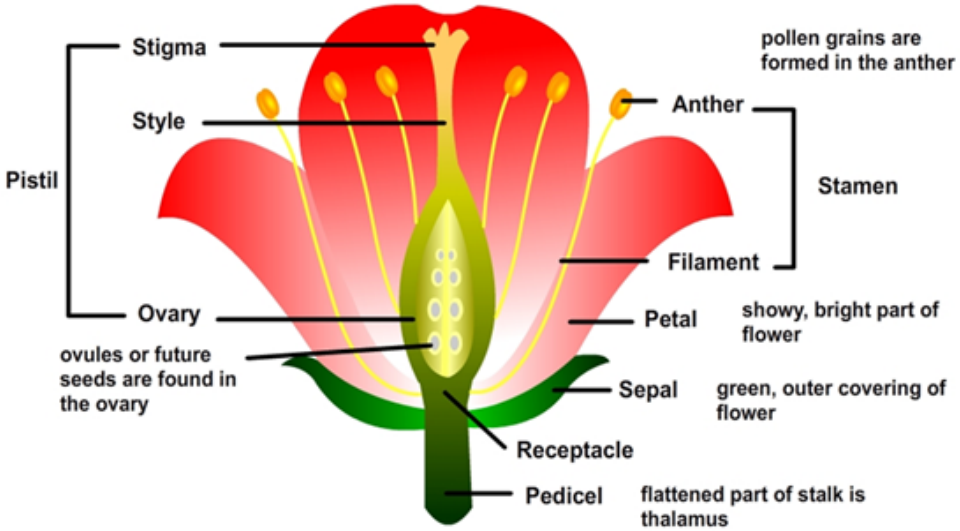
| | | | | | |
|---|---|---|---|---|---|
| Parallel venation : veins run parallel to each other e.g. banana, grass |  Parallel | Reticulate venation: Veins form a network on the leaf e.g. mango, guava |  Reticulate | Simple leaf: Leaf blade is a single piece  | Compound leaf: Incisions reach up to midrib and leaf looks like a group of small leaflets  |

MODIFICATIONS IN LEAVES

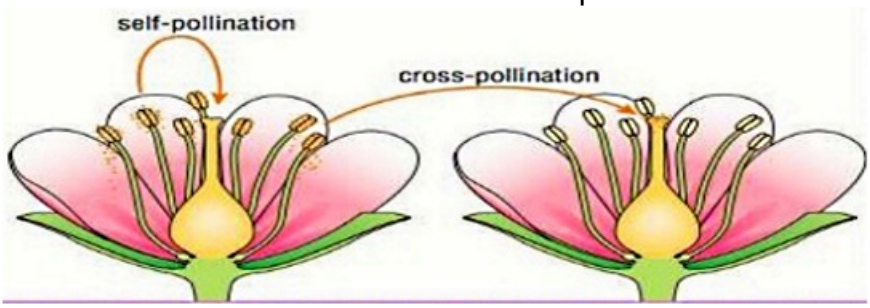
| | | |
|---|---|---|
| Leaf tendrils: In weak | Spines: In desert plants | Scale leaves: These may |

| | | |
|---|---|---|
| stemmed plants, leaf tips get modified as tendrils and coil around a support | like prickly pear, leaves are reduced to spines to avoid water loss | be seen in onion and ginger to protect buds |

FLOWER PARTS AND THEIR FUNCTIONS

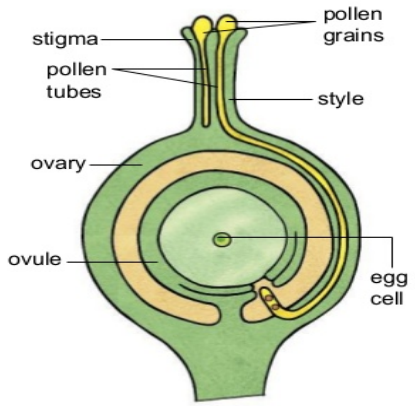



POLLINATION: Deposition of pollen on stigma of flower. Can be within same flower or between flowers of same kind on different plants




Pollen can be transferred by agents of pollination e.g wind, water, insects or even animals like bats and squirrels. They carry pollen from one flower to another

FERTILIZATION




- Pollen lands on stigma
- Pollen grain forms a tube which grows through the style and enters the ovary
- Ovules in the ovary contain the egg cell
- Male cells in the pollen tube fuse with the egg cells in the ovules and form a zygote
- This is called fertilization
- The ovule with fertilized cell becomes a seed
- The covering of the ovule becomes the seed coat
- The ovary becomes the fruit

Seeds are dispersed by wind, water or animals and germinate into new plants