



DIVERSITY OF PLANT FORMS

General Botany



Classification of Plants

- **Artificial classification**

- A. Based on whether or not they can manufacture food out of inorganic nutrients.**

- **Autotrophic / independent plant**- can produce their own food through photosynthesis.
 - all green plants
 - **Heterotrophic or dependent plant** – cannot manufacture their own food
 - i. parasite – nutritionally dependent on other living organism
 - ii. Saprophytes – nutritionally dependent on dead organic matters

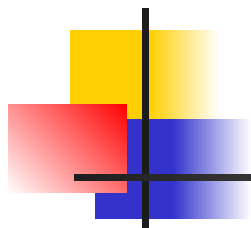


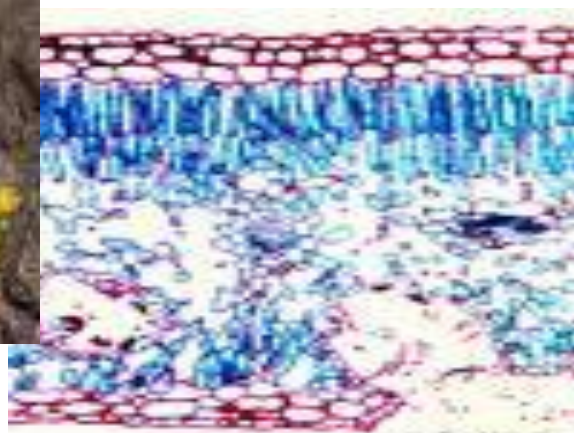
B. Based on environmental location

- **Aquatic plants** - live on water
- **Terrestrial plants** - live on land
- **Epiphytes** – found above the grounds & attached to plants

C. Based on water requirements

- **Xerophytes** – live in dry places
- **Mesophytes** – require moderate supply of water
- **Hydrophytes** – lives in watery or moist places & require abundant supply of water







D. Based on lifespan

- **Annuals** – a plant that complete its life cycle during a single growing season & then dies.
- **Biennials** – typically herbaceous plants, requires 2 growing seasons. Produce flower & seeds in the 2nd season.
- **Perennials** – a plant that grows for many years, woody or herbaceous.

E. Based on appearance or habit

- **Tree** – woody w/ single main stem, about 10 ft high
- **Shrub** – woody w/ a relatively short main stem w/c gives rise to many branches
- **Herb** – soft stemmed w/c is relatively short; short-lived
- **Vine** – either creeping along the ground or climb upright.

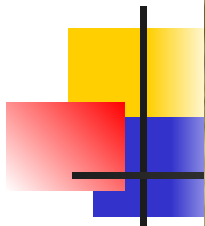


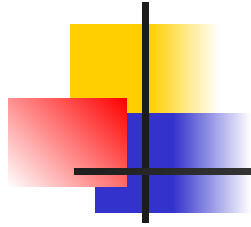
■ annual plants

■ biennial plants

■ perennial plants







■ Natural classification

- based on morphological & structural relationships.

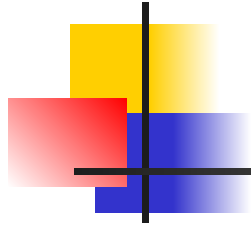
A. **Non-vascular plants** –lack conducting tissues (phloem & xylem)

a. **thallophytes**- simplest forms of plants

thallus – is their body composed of undifferentiated roots, stem, leaves. Ex: algae, fungi, lichens (alga & fungi)

b. **bryophytes** – mosses, liverworts, & hornworts.

- usually found in moist places, rocks, & trees.



- B. Vascular plants – have conducting tissues
- a. **Pteridophytes** – produces spores
 - ex: ferns
 - b. **Gymnosperms** – seed bearing plants w/c do not produce flowers.
 - ex: cycads (pitogo), pine trees, & spruces
 - c. **Angiosperms** – flowering plants that produce seeds
 - ex: gumamela, santan, etc.



Angiosperms

- Monocotyledonae (Monocot)
 - has one seed leaf or cotyledon
- Dicotyledonae (Dicot)
 - contains two seed leaves



In seeds, two cotyledons (part of the embryo)



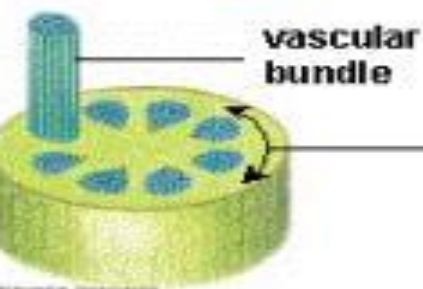
Usually four or five floral parts (or multiples of these)



Usually a netlike array of leaf veins



Basically, three pores or furrows in pollen grain



Vascular bundles arrayed as a ring in stem

DICOTS



In seeds only one cotyledon



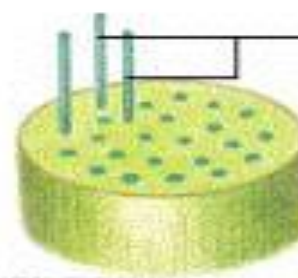
Usually three floral parts (or multiples of three)



Usually a parallel array of leaf veins



Basically, one pore or furrow in pollen grain



Vascular bundles distributed ground tissue of stem

MONOCOTS