

Chapter 22-1: Introduction to Plants

Essential Questions:

- What is a *plant*?
- What do plants need to survive?
- How did the first plants evolve?

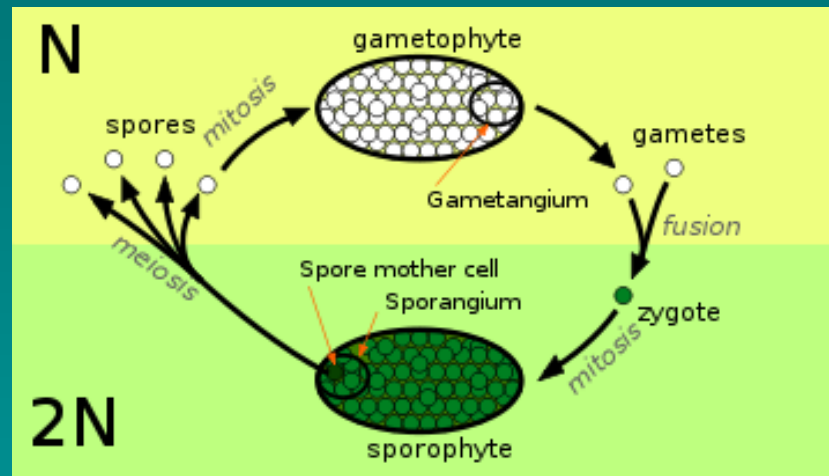
➤ What is a plant?

- Multicellular
- Eukaryote
- Have cell walls (cellulose)
- Develop from multicellular embryos
- Carry out photosynthesis using pigments



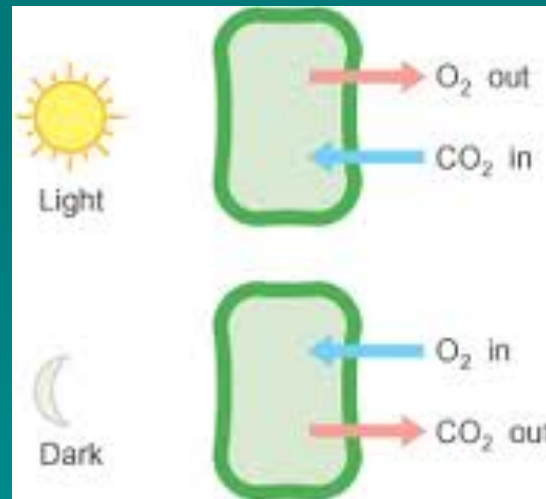
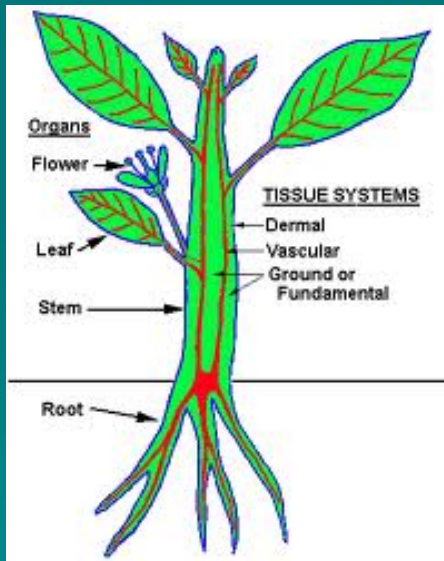
➤ Plant life cycle

- Alternation of generations
 - Gametophyte: haploid (N)
 - Sporophyte: diploid (2N)
- All plants have these 2 stages, but forms vary greatly
- Land plants must be able to carry gametes without water, therefore seeds



➤ What plants need to survive

- Sunlight
- Water & minerals
- Gas exchange
- Movement of water & nutrients



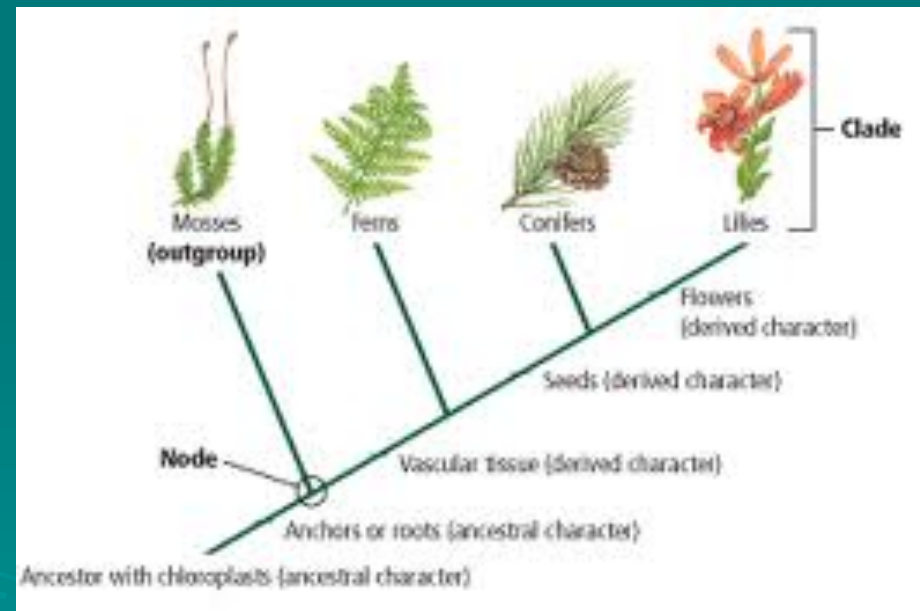
➤ Early plants

- Origins in water
 - First plants evolved from a multicellular green algae
- First plants
 - Still water dependent but able to live in moist terrestrial environments
 - Similar to today's mosses



➤ Evolution of plant kingdom

- Vascular tissue allowed colonization of drier terrestrial habitats
 - Ferns, etc
- Seeds allowed sexual reproduction in dry environments
 - Cone-bearing plants
 - Flowering plants



➤ Overview of plant kingdom

- Most plants species today are flowering plants
- DNA evidence suggests plants evolved from fresh water algae, not sea water

