About plants

- Plants are incredible organisms! They can make all their own food from the simple inputs of:
- sunlight
- air (carbon dioxide)
- water
- minerals

- This means that plants are able to harness the energy of the sun to turn CO2 from the air into
- the carbon-based molecules of life — carbohydrates, proteins, lipids, and nucleic acids.
- Plants capture the sun's light within their green leaves. Inside a leaf's cells are green organelles
- — chloroplasts — which do all this hard work of producing the food that feeds the plant… and,
- in fact, the whole rest of the world, too!

- Science classifies living things in an orderly system through which they can be readily identified. Living things are grouped into categories of increasing size, based upon relationships within those categories. For example, all plants can be put in order from the more primitive to the more advanced. Such a ranking would look like this:Plant Kingdom
- Bryophytes: Small with leaflike, stemlike, and rootlike structures.
- Disseminated by spores: mosses, liverworts, hornworts.
- Vascular Plants: Larger with true leaves, stems, and roots.
- Seedless: Ferns, horsetails, club mosses.
- Seed Plants:
  - Gymnosperms: Usually have cones, no flowers, seeds not enclosed in fruit: pines, spruces, firs, hemlocks, cycads, ginkgo.
  - Angiosperms: Have flowers, seeds enclosed in fruit
    - Monocotyledons: Leaves have parallel veins, one seed leaf: grasses, orchids, lilies, palms.
    - Dicotyledons: Leaves have netted veins, two seed leaves: cherry trees, maples, coffee, daisies, etc.

- This informal way of describing plant classification gives an overview of how plants are classified. Botanists use a more complex system. A botanist divides the plant kingdom into Divisions, similar to the Phyla used to divide the animal kingdom. There are twelve divisions. Referring to the above ranking, three of these divisions are Bryophytes, four are seedless plants, four are Gymnosperms, and one is Angiosperms. Each Division is further divided into Classes, which are divided into Orders, which are divided into Families, which are divided into Genera (singular, Genus), which are divided into species, which is the "basic unit" of classification. Put somewhat simply, individuals in a species are able to breed with each other, while in broader categories individuals do not interbreed.

- You can see another kind of adventitious root if you grow corn (maize) in your garden. On mature corn stalks you can often see prop roots arising from the lower parts of corn stalks, as shown at the right.
- Prop roots prop up stems that might otherwise fall over during a stiff breeze or when the ground becomes soft. They are much more common in tropical and subtropical areas than in our Temperate Zone.

- Many plants retain their leaves for long periods but other plants periodically shed all of their leaves. In areas where winters are cold, deciduous plants shed their leaves in autumn. In areas with a severe dry season, some plants may shed their leaves until the dry season ends.