Ten Things Everyone Should Know About Plants;

1) Plants are made mainly of a tough carbohydrate called cellulose.

2) Plants grow mainly by elongation of their cells. Plant cells generally only divide to produce new cells in specialized regions called meristems.

3) Growth in the height of plant is called primary growth. Increase in the width of a plant is called secondary growth. Only some species display secondary growth.

4) Most plant cells look like little boxes full of green disks. The disks are called chloroplasts. Other organelles inside a plant cell include a nucleus (where the DNA is kept), a large central vacuole (where water and other materials are stored) and a complex internal skeleton or "cytoskeleton" made of various proteins.

5) Chloroplasts are responsible for photosynthesis. Photosynthesis involves using light to split water into hydrogen and oxygen. The oxygen is released and the hydrogen is ultimately combined with carbon dioxide from the air to make simple sugars. Photosynthesis is essentially the reverse of respiration, which involves the break down sugars to yield energy, carbon dioxide and water.

6) Plants breathe through tiny pores called stomata. These can be opened and closed to control water loss and gas flow. The stomata of most plants are on the underside of the leaves.

7) Plants can be divided into several major groups called phyla (these groups used to be called divisions).

   Bryophyta – mosses
   Hepatophyta – liverworts
   Anthocerophyta - hornworts
   Lycophyta - club mosses etc.
   Psilophyta - whisk ferns, psilopsids
   Sphenophyta – horsetails
   Filicinophyta - ferns
   Cycadophyta - cycads
   Ginkgophyta - maidenhair tree
   Coniferophyta - Conifers
   Gnetophyta - gnetophytes
   Anthophyta - flowering plants (monocots and dicots)

   The phylum that currently dominates the world today, the anthophyta is a relative newcomer. They were not widespread until after the time of the dinosaurs. The anthophyta can be subdivided into two classes, the Monocotyledone (called "monocots", includes the grasses and palms) and the Dicotyledones (called "dicots", includes broadleaved flowering plants).

8) There are many different groups of algae, but only the green algae are vaguely related to the land plants. One particular group of green algae is called the Charales or stoneworts. This group is thought to have at one time given rise to the common ancestor of all land plants.

9) Plants reproduce using a variety of sexual and asexual techniques. Flowers are the sex organs of the anthophyta and produce male and female gametes. The anthophyta have developed a variety of interesting techniques for bringing the male and female gametes together to allow fertilization. In many cases this involves using an animal to carry pollen from one plant to another.

10) Plants have a huge impact on the environment and are involved in the cycling of various nutrients and gasses on a global scale. Their activities affect every aspect of the earth's atmospheric chemistry, climate and biodiversity. They are also involved in the transformation of bare rock into soils and habitats suitable for other life forms, as well as other forms of succession. All animals are totally dependent on plants for the primary production of organic calories from light and for the replenishment of atmospheric oxygen.