

AWARENESS OF ENVIRONMENT – Level 1

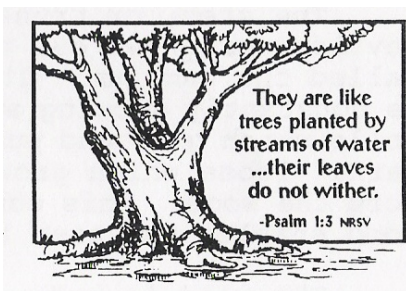
How many are your works O Lord! In wisdom you have made them all. The earth is full of your creatures. Psalm 104:24

Wandering in the wilderness for forty years, the children of Israel grew close to nature. They knew the songs of the birds and the cries of the animals. They slept beneath the stars and watched the seasons come and go. They saw the glories of God's great creation and cried out with the Psalmists "Come let us bow down and worship. Let us kneel before the Lord our maker for He is our God and we are the people of his pasture." Behold your God as you study his creation.

PLANTS

In the beginning God created the heavens and the earth...then God said, "Let the land produce vegetation, seed bearing plants and trees on the land that bear fruit with seeds in it according to their various kinds."

TREES



Trees are woody plants with a single erect stem, growing to a height of ten feet or more. They are distinguished from shrubs, which are also woody plants, since shrubs are usually smaller than trees and tend to have stems growing in a clump.

The United States has over 800 species of native and naturalized trees growing wild over 600 million acres of forest. This produces about ten billion dollars worth of forest products yearly. Of these 800 plus species, over 650 are the broad-leafed trees such as oaks, maples, cherry, ash and birch. Conifers, such as pine, hemlock, spruce, fir and cedar account for over 100 kinds and there are over 15 kinds of palm trees in the warmer regions.

Trees are very complex living things. They are composed of leaves, flowers, fruits, seeds, bark, buds, roots and wood. All of these parts may vary in some degree between two different trees, so you can see how broad the study of trees can be.

Leaves, using the energy of sunlight, make food for the tree from water and carbon dioxide. All trees produce a flower of some kind. It may not always be recognizable, but it is there.

The stem, or trunk, of the tree develops or grows due to a layer of cells called the cambium. This layer of cells is constantly growing and dividing. Those cells that grow and push outward form the bark. Those that grow and push inward form the wood. This constant formation of wood enables the tree to grow larger.

The wood is made up of cellulose and lignin. New wood cells produced in the springtime are often longer and thinner than those that form later, and so each season is often marked by an annual ring. This fact is helpful in determining the age of a tree.

The fruits of trees bear the seeds by which the tree reproduces. These seeds may be spread by many means. Some seeds have "wings" which the wind carries or blows to other areas.

The roots of the tree anchor it to the ground. They absorb water and minerals from the soil. Some trees have a long slender taproot that grows deep. Others have a spreading system of roots. The spread of a tree's root system is at least equal to the spread of its crown or branch growth.

Trees are an important natural resource. They provide us with wood and wood products, turpentine and resins. They also hold soil, preventing floods, and provide home and shelter for many kinds of wildlife. We should use great care and wisdom when dealing with such a valuable product.

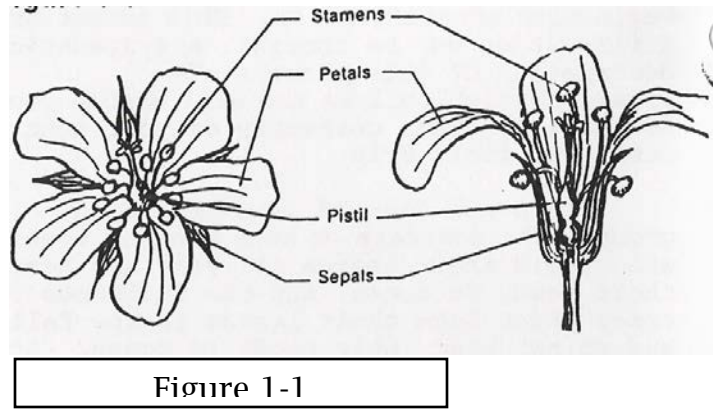
The everyday study of trees must begin with identification. This is not as difficult as may be thought. A systematic description of this process of identification follows and will enable you to identify trees correctly on your next outing or field trip.

Trees are classed into two broad groups: the conifers or cone bearing trees which hold their leaves all year and bear their seeds in cones, and the deciduous trees which lose their leaves in the fall and do not bear their seeds in cones. It is usually quite simple to decide to which group a particular tree belongs. When this has been done, you are ready to pin down the actual identity of the tree. There are many tree identification books available from your Library. Using them you will be able to identify most trees.

WILDFLOWERS

When you travel along roads and highways to fields and woods, you will see flowers that differ from those which you may have growing in your yard at home. Those that you have growing in your yard are usually grown from seeds or bulbs and roots purchased from a store. These varieties have been selected because they have appeal to the general public and are sought for planting in yards. They all have their beginnings in some wild flower. The flowers, which you see growing along roadways, fencerows and streams as you wander in the field, are termed wildflowers. It is the purpose of this section to describe some and give information on their identification.

First, let's look at how a typical flower is constructed. There are four main parts of every flower: the petal, the sepal, the pistil and the stamen. (See Figure 1-1) Each has a purposeful part of the flower. The petals of the flower are the showy part, that which we admire for color or form.



The sepals are the rings of smaller, generally green, bracts below the petals. These often are colored also, and have different forms from one kind of flower to another.

The pistils and the stamens are the essential parts of every flower for they are the means for the reproduction of that plant. The stamens produce the pollen that fertilizes the pistil and enables the ovules in the pistil to develop into seeds. This transfer of pollen grains may take place due to the wind or may be accomplished when insects crawl around in the flower in search of nectar. Pollen grains, clinging to the hairs on the legs of the insect, are carried from the stamens to the pistil. The flowers of any plant have only one goal: producing seeds for the propagation of that plant.

The word "flower" is generally used to describe a flowering plant, although it is actually the name of only one part of the plant. Many flowering plants are very useful to us, providing materials for food, clothing and shelter. Plants that we do not like and which do not provide useful materials are usually termed "weeds". It is a characteristic of weeds that they are active, hardy flowering plants that thrive in poor soil and under adverse conditions.

Flowers are in bloom every month of the year in some parts of the country. Only a few are found during the winter, the natural resting time for nature. Late in the spring, there is a general rush of blooming when many flowers push forth. This rush slacks off in the early summer and is followed by another surge of blooms in the early fall.

Most identification systems for flowers are based on color. Guidebooks are divided into sections of flowers, which are white or whitish, yellow and orange, pink or red, blue or violet and green or brown. Obtain a good guide to flowers and study it. Learn the system of identification, which it proposes. Then take to the field for hours of enjoyment of color and form.