

Honors Biology  
Summer Assignment

Classification of living things makes identification of specimens less difficult. This summer you will be learning about classification, with specific emphasis towards the plant kingdom.

- I. Living Things are currently initially separated into six kingdoms. These kingdoms are:
  - Eubacteria
  - Archaeobacteria
  - Protists
  - Fungi
  - Plantae (Plants)
  - Animalia (Animal)
  
- II. During the summer you will start to collect, press, and mount at least 20 (different genus) leaf specimens. Bonus specimens can be repeat genus but not species.
  - The instructions for leaf collection can be found in the links portion of my webpage – <http://mrsgscience.weebly.com> (**only use the portion on how to press the leaves by placing in a phone book**).
  - Directions for mounting and labeling are in the following pages.
  - This packet also includes useful information for classification of your specimens.
  - There is an online field guide link on my website to assist you in classifying your leaves.
  - DO NOT PICK FLOWERS – THIS IS THE WAY FLOWERING PLANTS REPRODUCE.
  - The due date for this project will be **October 18, 2012**.

The picture of leaf arrangements, shapes, structure, etc. are to be used to help classify the tree from which your leaves came.

It is useful to have a notebook to log the leaves you collect and any information you may need for labeling your mounted leaves. It is difficult to remember specific information weeks after collecting a specimen.

## Classification of Leaves

If you know the common name of the plant, it is simply a matter of looking up the scientific name of your plant. Be careful, there might be varietal names included in the scientific name.

What to do if you do not know the common name or the scientific name:

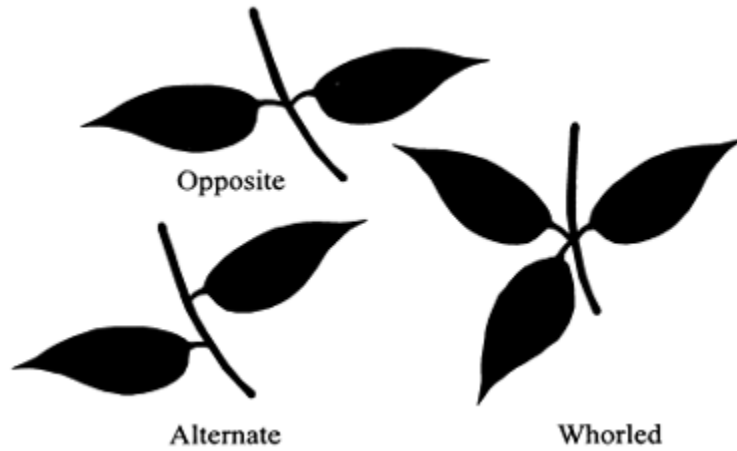
1. Try the on-line field guides or other links on my website.
2. Go to a plant nursery and try to find a matching leaf on a plant, usually nursery plants are labeled with common name and scientific name. **DO NOT COLLECT LEAVES FROM PLANTS AT A NURSERY, THEY ARE FOR SALE NOT FOR YOUR CONVENIENCE.**
3. Ask a neighbor if they know the name of the plant. This may give you a hint as to which family the plant belongs.
4. Ask for my assistance, once school has begun. **THIS SHOULD BE A LAST RESORT. THIS IS NOT MY PROJECT NOR YOUR PARENTS' PROJECT, BUT IS YOUR PROJECT.**

## Grading sheet instructions

- You are only to write the genus and species of each mounted leaf on the grading sheet.
- You must turn in the grading sheet with the genus and species written for every mounted leaf.

**LEAVES – This page is only to help in identifying your leaves.**

**Arrangement of leaves:**



**Leaf structures:**



**Simple**



**Palmately compound**



**Even pinnately compound**

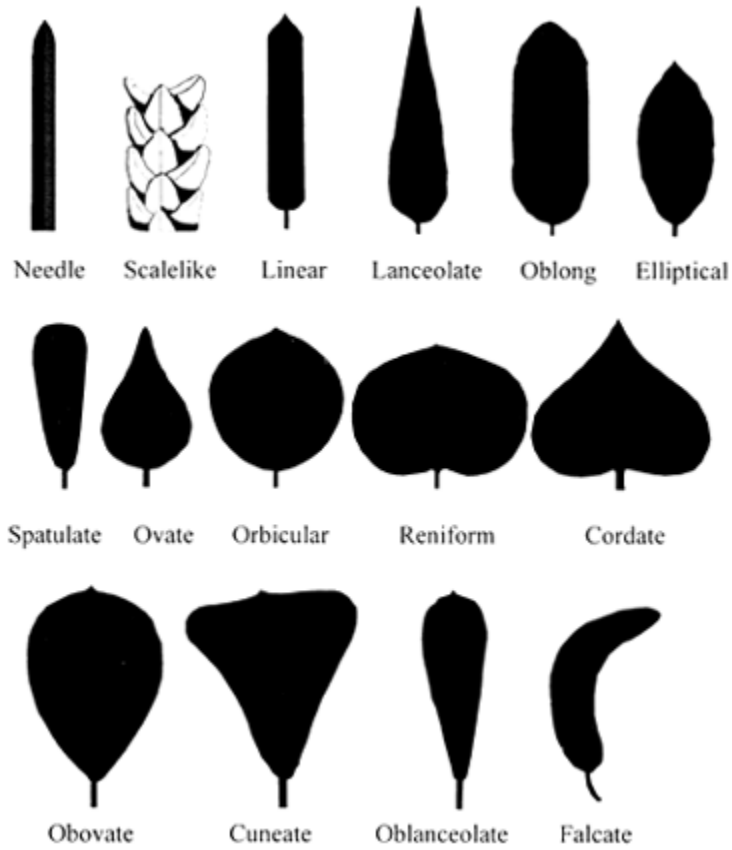


**Odd-pinnately compound**

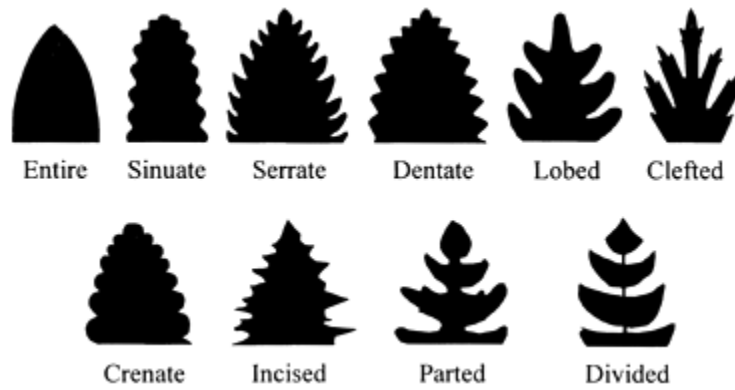


**Bipinnately compound**

**Leaf shapes - This page is only to help in identifying your leaves.**



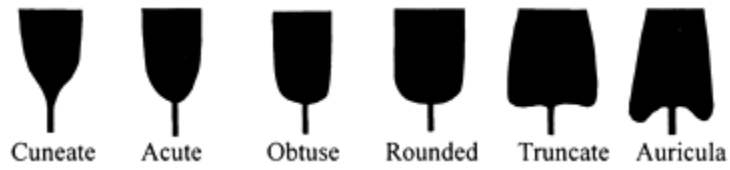
**Leaf margins:**



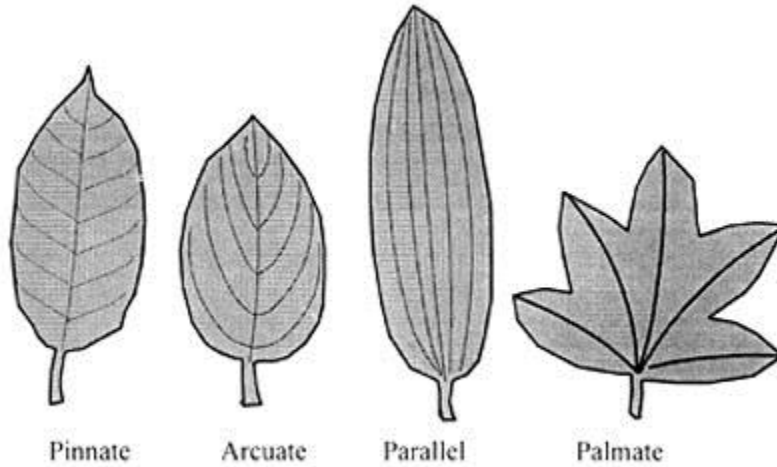
**Leaf tips:**



**Leave bases - This page is only to help in identifying your leaves.**



**Leaf venation:**



<http://www.fao.org/docrep/005/ac775e/AC775E01.htm>

## Instructions for Mounting and Labeling Pressed Leaves.

Materials:        Acid-free paper (white or colored)  
                      Acid-free white glue  
                      Page protectors (those used in scrapbooking are  
                      fine) or clear Contact© adhesive shelf liner (or any clear  
                      adhesive covering)  
                      Notebook

### Procedures:

1. Press leaf specimen as outlined in the eHow website.
2. When leaves are DRY and pressed they are ready to be mounted.
3. Mounting a less than dry leaf will result in mold growth.
4. The label for each can be typed on a separate piece of paper and then cut and glued in the correct position on the mounting paper or pre-typed in the correct location before final mounting of the leaf.
5. Each specimen will be centered on a piece of acid-free paper.
6. Secure the leaf to the paper with several DROPS of acid-free glue. (Leaves can be very fragile and a delicate touch is required.)
7. After all glue has dried, carefully place in page protector or cover with clear adhesive covering.
8. Place each specimen in a notebook.
9. You must have a cover page and a table of contents preceding your collection. (Samples are attached).

Note: All writing will be typed in 12 point Times New Roman font.

SAMPLE TITLE PAGE

Leaf Collection and Classification

Ima Student  
Honors Biology 2011-2012  
Mrs. Ginsburg

## Table of Contents

Genus species (Common name) .....1

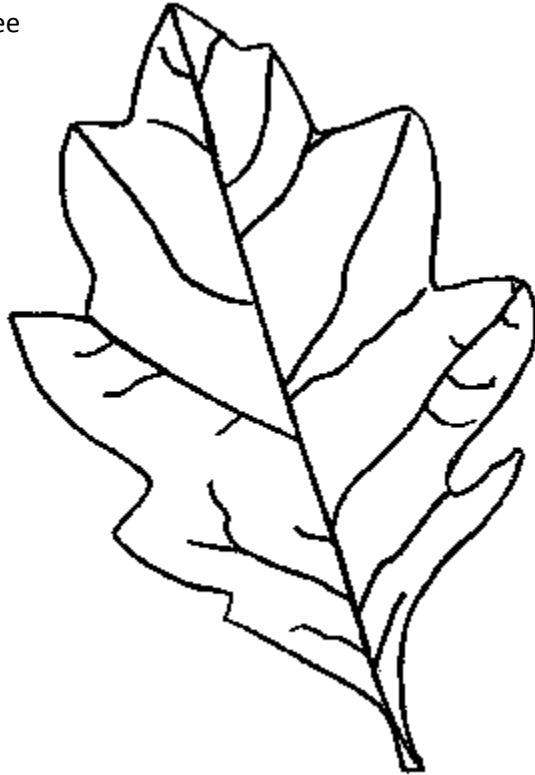
Genus species (Common name) .....2

ETC.....



## SAMPLE MOUNTED LEAF

Pressed leaves should be centered on acid free paper and glued with several drops of acid free white glue.



*Each leaf should have a label placed in the right lower corner which includes:*

Common name:

Scientific name: (Genus species)

Collection Location:

Collection Date:

Collected by: NAME