

S.O.G. 401

Plant ID

Handout

Learning How to Identify Landscape Plants

Our goal: Be efficient and make a positive and correct identification using the fewest number of steps.

How to do it?

1. Understand that plants have a unique set of identifiable characteristics.
2. Identify what are the unique set of observable characteristics that may be associated with a plant species.
3. Develop a means of associating these characteristic with the plant name.
4. Practice the spelling and pronunciation of each plant name. Repetition is the key to success, just like improving at any sports activity or musical instrument.

When you start learning to identify plants it can be really difficult because they all seem so similar. How do you tell one green leafy thing from another green leafy thing? Learning plants is a lot like meeting people and remembering their names. The more you know about each person and the more context you have for them, the easier it is. Have you ever run into someone on the street and knew that you know them but couldn't place their face? Once you recall the context of where you know them from, often their name and much more comes to mind. Having context is equally useful when learning plants.

Don't walk by an unknown plant. Note it, Learn it

- ¬Take a picture
- ¬Take a piece
- ¬Take time to learn it.

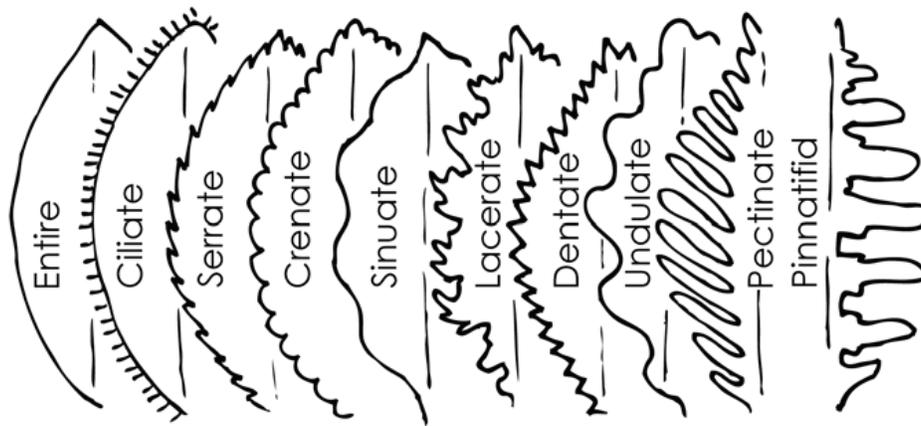
1. Characteristics

Good plant identification starts by honing your observation skills. Plants have unique characteristics that will help you determine what they are. There are many characteristics to look for in plant identification. Things like the plant's flower (if present), the leaves, odor, color, shape, fruits, stems and buds all aid in identification. The most useful characteristic, however, is the leaf.

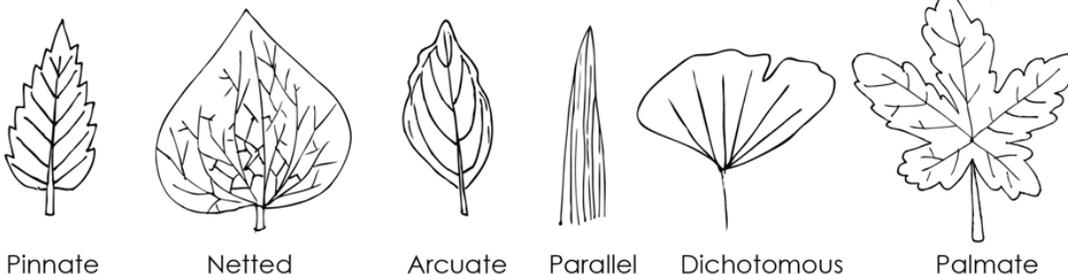
2. The Leaf

Leaves are one of the most common plant parts used to identify a plant. The leaf morphology or physical characteristics can tell you a lot about the plant. Beginning questions about the leaf morphology might include: What shape is it? Are the edges smooth or jagged? Do the veins run in one direction or all over the place? How are the leaves attached to the stem? What color are the leaves? Are the leaves evergreen? How big are the leaves? Leaves are divided into two categories--broad and narrow. The specific way leaves are attached to the stem is also a clue to the plant's identity. The odor emitted when the leaf is crushed is yet one more way to ascertain the plant's identity.

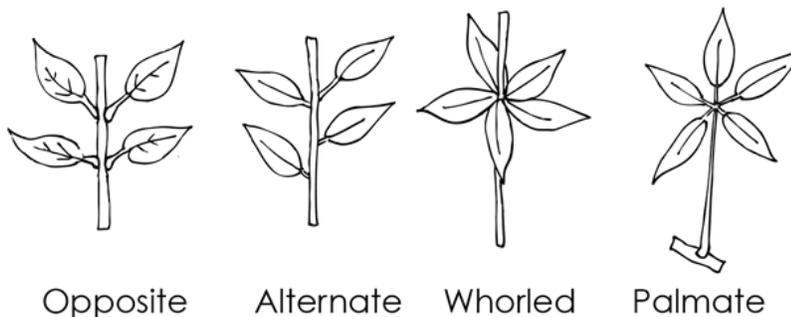
- **Leaf Edges:** The edges of a leaf are called the margins and they can be straight and smooth or jagged like a saw blade. What does your leaf edge look



- **Leaf Shape:** From the heart shaped leaf of a redbud to the maple that looks like the palm of your hand, leaves come in numerous shapes and sizes. Can you define the shape of your leaf? Does it remind you of something familiar?
- **Leaf Veins:** Veins deliver water and nutrients to and from the leaves and throughout the plant. Below are a few different types of leaf venation.



- **Leaf Arrangement:** How are the leaves attached to the stem? Are they across from each other, staggered up the branch, or do they spiral around?

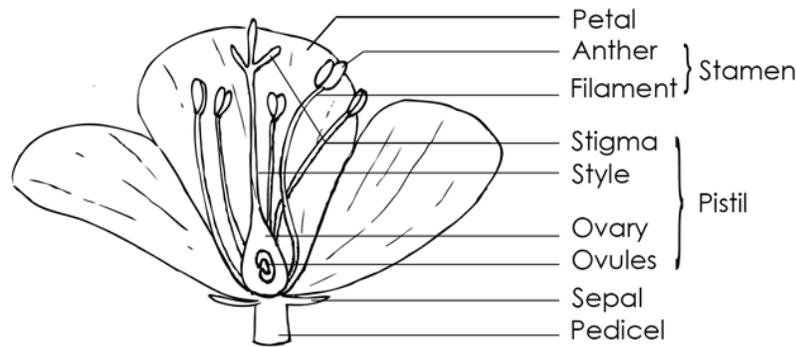


- **Leaf color:** Some of you are thinking, “I thought leaves were green,” but the difference between dark green, light green, blue-green, shiny green, and chartreuse can distinguish one plant from another
- **Leaf Features:** Is there something unique about your leaf? Does it have hairs or bumps? Is it thick or waxy? Is it as small as your pinky finger or as large as your leg?

3. Flowers

Flowers play a large role in determining which family a plant belongs to. Plants of the same family have very similar floral structure.

- **Flower Parts:** Flowers are made up of a number of different parts including the female reproductive organ, the pistil, the male reproductive organ, the stamen, the petals (collectively the corolla), the sepals (collectively the calyx) and the flower stalk or pedicel. Examine your flower closely and find the different parts.



- **Flower Structure:** Look closely at your flower. Does it include the stamen and pistil? If the male and female reproductive parts are in one flower, it is considered a perfect flower. If the male and female reproductive parts are separated into different flowers, the flowers are considered imperfect. If this is the case, the plant may be monoecious, which means “one house,” with a plant having separate female flowers and male flowers. Some plants are dioecious, which means “two houses,” with the male flowers found on one plant and the female flowers on another plant.
- **Flower Digits:** The number of flower parts is a good indication of what plant family it belongs to. Count the number of pistils, stamens, petals and sepals.
- **Flower Type (Inflorescences):** Flowers have different forms that can help you recognize what type of plant it is. Find the type that most closely resembles your flower.

4. Fruit

There are many different types of fruit, from exploding seedpods of impatiens to the fleshy berries of a raspberry. The type of fruit varies by plant, but tend to be similar in families. Try to find the fruit of your plant (this depends on the time of year) or look for a photograph. What features are distinguishing?

5. Stems

Identifying plants through their stems can be particularly useful for woody plants. In the winter, when many woody plants have lost their leaves, you can observe bud arrangement, size, leaf scars, bark and other striking features. Using a dichotomous key for trees in the winter can be helpful in practicing identification of your plant.

6. Seeds

Seeds come in a variety of shapes, sizes and colors. Seeds from the same family generally have similar identifying characteristics.

7. Storage Organs

Plants with storage organs serve as a source of energy for the plant and in some cases, the primary method of horticultural propagation. Storage organs may be a modified root, leaf or stem and can play a role as an identifying feature of the plant. Look closely at the plants with storage organs and determine which plant part it derives from.

- Tuberous Root: Examples: sweet potato, dahlia
- Tuber: Enlarged, short, fleshy underground stem. Examples include: potato, tuberous begonia, cyclamen
- Corm: Thickened, underground stem, upright in position. Examples: crocus, gladiolus.
- Rhizome: Usually thickened, underground main stem (stolon) that runs horizontally. Examples include: Iris
- Bulb: Examples: tulip, daffodil, hyacinth, amaryllis, onion, lily, garlic.

8. Follow Your Nose

Sniff around and you might find that plants often have a specific odor associated with them. Cut open an onion and inhale that spicy, pungent aroma. Plants that are closely related, like onions, leeks, chives and garlic (Onion Family or Allium Family) often have the same chemical compounds in them and can help you with identification in the field.

9. Secret Stories

Many horticultural plants have a secret story associated with them and it is up to you to uncover their mystery! Plant stories might be tall tales related to a plant's significant feature or just something fun about their biology, which can help you remember the plant.

- Did you know that begonias are a tart and tasty snack?
- A form of aspirin first came from willow trees?
- Native Americans used the Yaupon holly leaves and stems to brew a tea, which made them vomit, and Europeans incorrectly believed that it was *Ilex vomitoria* that caused it (hence the Latin name).