

Name: \_\_\_\_\_

## Vocabulary

**Arbor:** Tree

**Arborist:** One who maintains trees

**Awl:** Small pointed tool used for piercing holes

**Bear:** To bear fruit means yield positive results

**Biology:** The study of living organisms

**Botany / Botanical:** Branch of biology dealing with the study of plants

**Carbohydrate:** Energy sources from sugars, starches, celluloses, and gums

**Deciduous:** Seasonally shedding of leaves, usually in the autumn

**Declinate:** Curving downward, and then upward at the tip

**Deltoid:** Shaped like more or less equilateral triangle

**Dendroid:** Tree-like; branching like a tree

**Dendrology:** Study of trees

**Dentate:** Toothed, especially in reference to leaf margins

**Endemic:** Species only found in a single defined region

**Evergreen:** Foliage stays green and functions through many growing seasons

**Extant:** Still in existence; surviving, currently alive. (Opposite of Extinct)

**Extinct:** No living members; no longer in existence. (Opposite of Extant)

**Flora:** Plants of a particular region, habitat, or geological period

**Flower:** Structure having showy or colorful parts; a blossom

**Foliage:** Collectively refers to plant leaves

**Growth Rings:** Ring of wood added during growths period that shows tree's age

**Leaf:** Flat, usually green parts of a plant joined at one end to the stem or branch

**Native or Indigenous:** A species that developed within a particular ecosystem

**Perennial:** Appearing again and again or year after year

**Photosynthesis:** Producing food by combining carbon dioxide, water, and sunlight

**Seed:** A small dry fruit, spore, or other propagative plant part

**Serrated:** Having a saw-toothed edge

**Synthesize:** Combine to form a new, complex product

**Trunk:** The upright, large, and typically woody main stem of a tree

**Vascular:** Cells or vessels, like veins, that carry or circulate fluids

# Acorns to Oaks



Coast Live Oak  
*Quercus agrifolia*



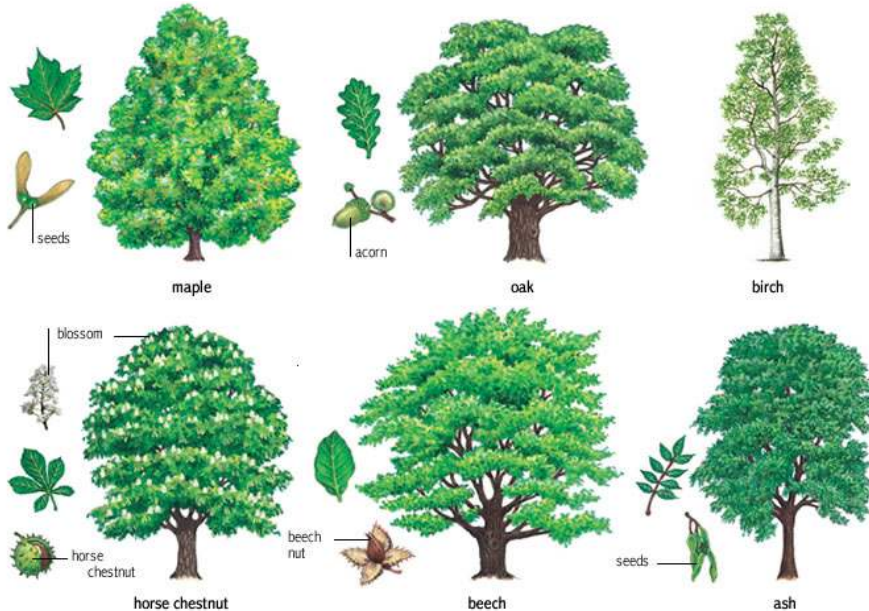
# Broadleaf

Pronounced: [BRAW-dleef]

*Does this tree have flat, thin leaves that generally shed in Autumn?*

**It's a Broadleaf tree.**

Broadleaf trees are within the diverse botanical group of angiosperms (flowering plant) that has flat leaves and produce seeds inside of fruits. The broadleaf, *Coast Live Oak*, serves as a cornerstone for wildlife and surrounding ecosystem. It has gnarled branches, scalloped leaves, and a grand canopy. The tree flowers each spring and its acorns attract a wide variety of birds and butterflies. Over 270 species rely on this tree for food and habitat.



***Describe and draw the plant, leaf shape, or patterns.***

Arizona Cypress \_\_\_\_\_

Black Sage \_\_\_\_\_

California Lilac \_\_\_\_\_

California Poppy \_\_\_\_\_

Coast Live Oak \_\_\_\_\_

Engelmann Oak \_\_\_\_\_

Jerusalem Pine \_\_\_\_\_

Laurel Sumac \_\_\_\_\_

Lemonade Berry (*Sumac*) \_\_\_\_\_

Shaw's Agave \_\_\_\_\_

Sugar Bush \_\_\_\_\_

Torrey Pine \_\_\_\_\_

Toyon (*California Holly*) \_\_\_\_\_

White Sage \_\_\_\_\_

## Leave No Trace Principles

### Plan Ahead and Prepare



- Prepare for extreme weather, hazards, and emergencies.
- Repackage food to minimize waste.



### Travel and Camp on Durable Surfaces



- Stay on maintained trails and designated campsites.
- Protect riparian areas. Camp 200 ft from lakes and streams.
- Walk single file in the middle of the trail.

### Dispose of Waste Properly



- Pack it in, pack it out all trash including food and litter.
- Inspect campsite, food prep and rest areas for trash.
- Use biodegradable soap. Carry water 200ft away from streams.

### Leave What You Find



- Do not touch cultural or historic artifacts. Preserve the past.
- Leave rocks, plants, and other natural objects as you find them.
- Avoid introducing or transporting non-native species.

### Minimize Campfire Impacts



- Campfires cause lasting impacts. Ensure fire is completely out!
- Keep fires small using established fire rings.
- Only use down and dead wood from the ground, broken by hand.

### Respect Wildlife



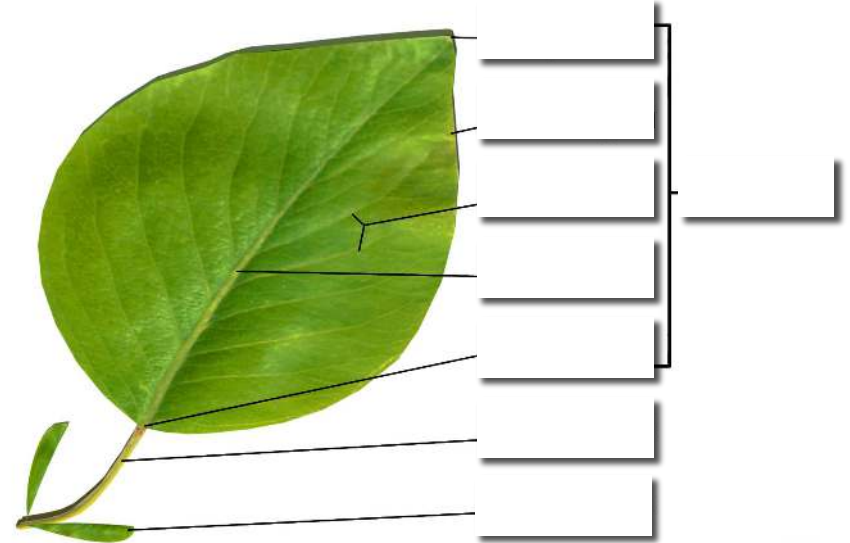
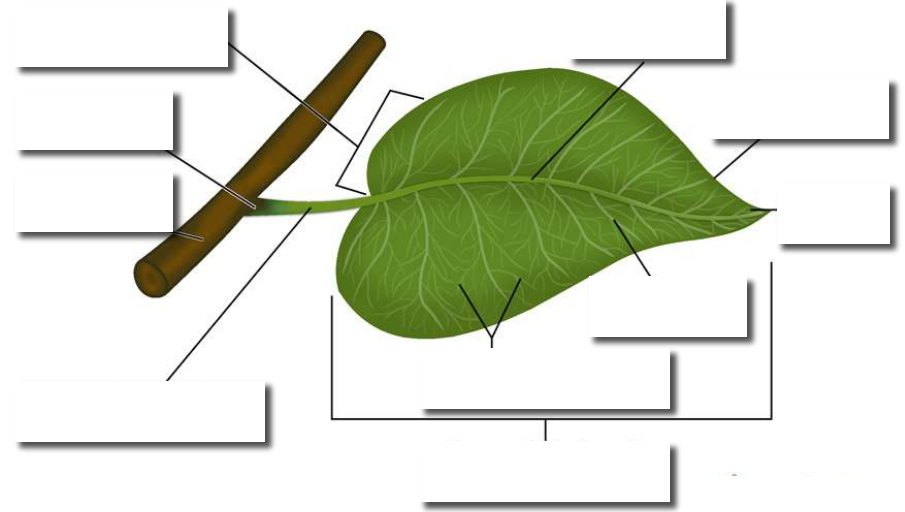
- Observe wildlife from a distance. Do not follow or approach them.
- Never feed animals which alters natural behaviors, and exposes them to predators. Avoid during mating, nesting, or winter.
- Control your pets at all times or leave them at home.

### Be Considerate of Others



- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail.
- Let nature's sounds prevail. Avoid loud voices and noises.

## Part of a Leaf





# Conifer Needles

**Pine Tree** Needles arranged mostly in clusters of 2-3 and evergreen.

**Torrey Pine** Needles arranged clusters of five long “fingers” and evergreen.

**Larches** Deciduous needles, 1-1 ½ inches long, clusters of many on short, spur-like branches. Cones are upright and 1 inch-long.

**Single-leaf Pinyon** Needles are arranged singularly, less than 2 inches long; cones 1-2" long with a few thick, often prickly scales. Large, edible, wingless seeds.



**Coast Redwood** Treetop needles with tight spikes conserve moisture as there is little evaporative surface. The lower branches produce flat needles in order to catch additional sunlight through the thick canopy of branches.

# Caryophyllales

Pronounced: [KEH-ree-o-FILL-uh-leez]

*Does this tree have scale-like, or awl-shaped leaves, usually evergreen, sometimes reduced to a thick fleshy stem?*

**It's a Caryophyllales tree.**

Better known as a cactus, Caryophyllales is a diverse group of flowering plants that includes the cacti, carnations, amaranths, ice plants, beets, and many carnivorous plants. Many members are succulent, having fleshy stems or leaves.



# Arecales

Pronounced: [eh-ree-KALS]

Does this tree have large, compound, evergreen leaves, arranged at the top of an unbranched stem?

**It's a Palm tree.**

There are around 2,600 known species of tropical and subtropical palms. Palms exhibit an enormous diversity in physical characteristics and inhabit nearly every type of habitat within their range, from rainforests to deserts. The California Fan Palm, *Washingtonia filifera* is native to San Diego. All the other species were introduced by Spanish explorers in the 18th century.



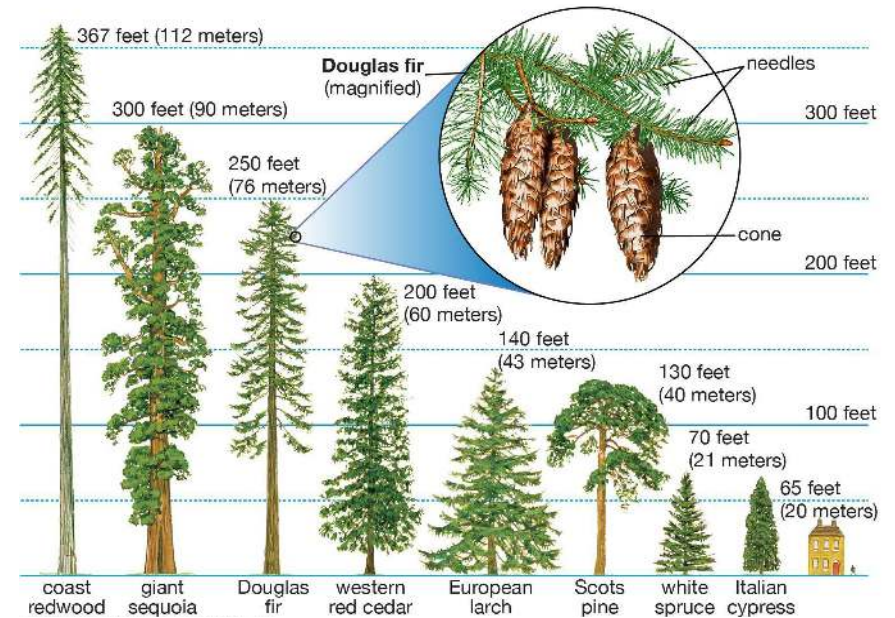
# Conifers

Pronounced: [KAA-nuh-frs]

Does the tree have cones and needle-like leaves?

**It's a Conifer tree.**

Conifers (cone-bearing) are evergreen trees with needles or leaves that remain alive and on the tree through the winter and into the next growing season. All extant conifers are perennial, woody plants, usually with bark. The great majority are trees, although a few are shrubs. One rare and critically endangered species of conifers is the Torrey Pine. Torrey Pines, *Pinus torreyana*, only grows along the San Diego coast and nearby islands and is therefore endemic.



Field Study Notes

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