Growing Beautiful, Safe, and Healthy Trees

SMUD, your community-owned electric service, and the Sacramento Tree Foundation present proper techniques and reasons for pruning young shade trees.
Young trees will grow 30 to 60% faster with regular care during the first five growing seasons.

The key to growing healthy new trees is in learning a few new skills and following our easy young tree care tips.

Caring for young trees is rewarding work. Here is how you can grow more shade sooner.
Young Tree Care Tips

Grow beautiful, safe, and healthy trees by practicing these tree care tips.

Water
For the first three years, deep water (provide a low flow of water over an extended period of time that will saturate the soil to the bottom of the root ball) at least twice weekly from mid-April to mid-October. Check the soil before watering to make sure the tree is not over or under watered. Lawn watering will not meet the water needs of a young tree.

Mulch
Spread wood chips in a 4-foot diameter around the tree, 4 inches away from the trunk, and 6 inches deep. Mulch keeps soil temperatures cool, conserves water, and discourages weeds.

Weed
Keep lawn and weeds at least 18" from the trunk. Mulch will keep the planting area clear of weeds, grass and other plant life. Hand pull weeds. Do not use weed trimmers or lawn mowers near the trunk as they easily damage young trees and stunt their growth.

Stake
If the tree cannot stand upright by itself, support it by placing two stakes at least 18 inches away on opposite sides of the trunk. Use tree ties to keep the tree upright, but don’t tie them too tightly. The trunk should be able to sway gently in the wind. Stakes are normally removed within the first year of growth.

Prune
Pruning is best done in winter months when there are no leaves on the tree. Begin shaping your tree two years after planting.

The rest of this guide is dedicated to teaching you the art and science of young tree pruning.

For more tips on tree care, please visit www.sactree.com/learn.
Why Prune Young Trees?

Pruning trees while they are young creates beautiful, healthy, and safe trees. A healthy tree with a strong canopy increases property value and requires less care.

Prune young trees to:
- Maintain/improve health
- Provide clearance
- Increase lifespan
- Reduce risk of failure

The best pruning practice is to make small corrective cuts on trees during the first two to eight years. With these small pruning cuts, you will be shaping and strengthening your trees for years to come.

When to Prune

Winter - The best time to prune (when leaves are off)

Spring and Fall - Avoid pruning (except for dead or damaged wood, suckers, and water sprouts)

Summer - Limit pruning (remove dead or damaged limbs, suckers, and water sprouts)
Follow These Basic Rules of Pruning

**Do**

- Prune small amounts while the tree is young, generally from two to eight years of age.

- Select the proper hand tools for the job and keep them sharp and in good working order. Clean after use.

- Practice safety. Wear protective gear, such as goggles and gloves.

- Hire a professional arborist to prune trees that you cannot reach safely while standing on the ground. See page 15 to learn how to hire a Certified Arborist.

- Avoid working near power lines. Call SMUD at 916-732-5854 if trees are in or near the lines.

**Don’t**

- Remove more than ¼ of the total tree canopy per year.

- Use pruning paint or seal cuts.

- Prune trees that you cannot reach safely while standing on the ground.

- Cut the top off your tree. Topping is an unnecessary and unsafe practice. Topping causes weakened tree structure and unsafe trees.

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Before pruning

After pruning
Before You Prune...

Learn where to make the right cut

- Knowing where and how to make the right cut begins with recognizing what is known as the branch collar.

- To find the branch collar look for the swollen area, often times with ridges, located where the branch is attached to the tree trunk.

- Make your cut just outside the branch collar.

- If the branch is smooth and even where it attaches to the tree trunk, make your cut near the intersection of the branches.

- Avoid leaving stub cuts and making flush cuts to the trunk (see pg. 7). Make the cut as round as possible. Oval cuts will not heal as well.

- Properly cut branches will create temporary wounds that naturally close in time. Cuts that leave stubs or flush wounds on the trunk will sprout new, weakly attached branches.

Select the Right Tool

Select the proper hand tools for the job and keep them sharp and in good working order. Practice safety. Wear protective gear, such as goggles and gloves.

A sharp, By-pass hand pruner is recommended for small cuts.

Loppers are a good tool for branches that are too large for hand pruners, but too small for a saw. Loppers are generally used for stems larger than ¾ inches and less than 1 inch.

Anvil pruners should be avoided because they may crush the branch.
Use the 1-2-3 Saw Cut for Branches Over 1” in Diameter

The 1-2-3 saw cut keeps the weight of the branch from damaging the tree during pruning.

For branches over 1” in diameter use the 1-2-3 saw cut.

1. With the handsaw, make a shallow cut on the underside of the branch, about two inches outside the branch collar. Remember that pruning saws cut in the direction of the pull stroke, so pressure is applied while pulling the saw toward the user. Do not cut all the way through the branch on this first cut.

2. Make the second cut on the top of the branch on the outside of the first cut. Cut all the way through the branch. If the branch tears, it will tear into the first cut and not into the branch bark collar.

3. Make the final cut just outside the branch bark collar to remove the remaining stub. The branch bark collar will then be able to grow replacement wood over the cut. Good clean cuts create wounds that close well.

Bad
Never leave a stub.

Worse
Do not flush cut.

Correct
Make clean cuts outside the branch collar.
The Life of an Unpruned Tree

**Not pruned after 3 to 4 years**
- Root suckers protruding near the base have grown aggressively and are weakening the tree.
- Branches with similar diameter to the leader are competing with it.
- Lower branches have grown too vigorously and should have been shortened or removed.
- Broken limbs may sprout poorly attached stems.

**Not pruned after 5 to 7 years**
- Large competing leaders with narrow branch angles can break in wind storms.
- Lower large branches are now obstacles and make removing other branches difficult.
- If this misguided growth were now removed it would leave larger pruning wounds that may not heal and would invite insects and disease.

**Not pruned at 15 years**
- The tree has no shape, no clear main leader, and a weak branching structure. It will be costly to maintain.

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At planting | After 3-4 years | After 5-7 years | 15 years after planting
The Life of a Well Pruned Tree

At Planting to 2 years
- Broken branches and branches competing with the main leader have been removed.
- Young temporary branches allow the tree to manufacture nutrients from the leaf surface.
- Lower branches encourage tree growth and prevent the sun from burning the trunk.

After 2 to 4 years
- As growth starts and nutrients are stored in the roots, root suckers from the base or fast growing vertical water sprouts in the crown have been removed.
- Excessive branches are removed reducing competition for light, water and nutrients.
- A single main leader is identifiable.
- Some of the lower temporary branches have been removed or shortened; some remain helping to develop strength as well as to create shade for the bark.
- Narrow angled or crossing branches have been removed.

After 5 to 8 years
- All lower temporary branches have been removed.
- The lowest branches are the permanent branches.
- Branches causing crowding have been removed to allow for light and air.

15 years after planting
- Proper pruning gives strength to branches and allows the wind to pass through the thinned crown.
- The tree is beautiful and will cost less to care for as it matures.
How to Prune

After carefully reviewing this guide, select the right tool(s), get your safety equipment together and choose the tree you plan on pruning. Follow these step by step instructions.

1. Stand back and take a good look at your tree. Try to visualize how you want it to look in the future.

2. Identify broken, diseased, or dead branches. Trim these off, carefully preserving the branch collar. (Feel free to remove dead, dying, diseased branches at any time of year.)

3. Look for crossing or rubbing branches (pg. 11) and remove those. Be sure to preserve the branch collar.

4. Look for water sprouts or suckers (pg. 12). Remove those.

5. Step back again and look carefully at your tree. Find the main leader (the main trunk of the tree beginning at the ground and growing straight up). If your tree does not have an obvious main leader, you will need to decide which of the straightest, strongest branches should be the leader and remove the rest. (pg. 11) Note that this is most often the tallest one, but that straight and strong are the most important characteristics.

6. Determine the lowest permanent branch that will remain on the tree throughout its life (choose a branch growing out from the main trunk high enough to walk under).

7. Cut back or remove the temporary branches below the lowest permanent branch (pg. 12). This does not need to happen all at one time, you can cut these temporary branches off over the next few years. Cut back temporary branches about half, reducing them to two to four buds. This slows down their growth and increases growth in the rest of the tree. Remove temporary branches as they grow to an inch in diameter or less than 3 inches.

8. Remember not to remove more than ¼ of the tree canopy per year.

9. Take a look at the great work you have accomplished. By following these simple steps each winter (after your tree’s leaves have dropped) for the next few years you will grow a healthy tree with a strong canopy which increases property values and requires less care.

10. Congratulate yourself for a job well done!
Pruning Concerns and Issues

Crossing Branches
Crossing branches can rub and result in wounds that decay. Remove any time of year before damage occurs.

Dead Branches
Leaving on dead wood can cause additional stress to the tree and increase insect and disease problems. Remove dead wood any time of year.

Double leaders
Double leaders are competing stems and are weakly attached. Select the straightest one for the leader and remove the other. Sometimes the straightest one may not be the largest one. It is important to select the one that is not crooked and has no defects.

Included bark
When two similar sized branches form a narrow V-crotch, ingrown or included bark is produced. Included bark does not have the structural strength of wood. It is prone to breakage and can cause the tree to split. A side branch should be no more than ½ the diameter of the trunk. Remove any branches that have included bark.

Narrow, crowded branching
Narrow angles signal a point of future weakness. As the two branches grow, neither has sufficient space to add wood needed for strength. Instead, they grow against each other and can eventually break. Remove one of the branches.
Poor Center of Gravity
Young trees deformed by wind may be corrected by pruning. Move the tree’s center of gravity to a point more central over the trunk by cutting back the leader and side (lateral) branches on the downwind side to more upright branches. Remove any branches that would be taller than the new leader.

Temporary Branches
Temporary branches are branches that are too close together, competing for light and air, or they are branches that are not growing in desired locations on the tree.

Allow temporary branches to remain on trees while they are small to increase nutrient production, shade the trunk and help create balanced growth.

Remove temporary branches as they grow to an inch in diameter.

Water Sprouts
Water sprouts are usually upright, fast-growing but weakly attached stems found on branches that have been over-pruned or exposed to sunlight by defoliation. Water sprouts are often forced into growth just below large pruning cuts, particularly when the branches have been cut to stubs.

Determine the cause of water sprouts and remove them any time of year.

Sucker Growth
Suckers are unnecessary shoots that arise from the root ball or from below the graft (where one tree has been grafted onto another root system). Suckers rob the main trunk and limbs of growth potential. Remove them any time of year.
Prune for Form

Crown Ratio
The canopy crown should comprise two thirds of the height of the tree, while the bare trunk accounts for the other third. Most of the branches in the canopy should originate from the middle third of the tree. Leave at least \( \frac{3}{4} \) of the entire canopy intact when pruning. Prune to balance the canopy and allow for air circulation. Avoid over pruning as it can damage or kill a tree.
Integrated pest management (IPM) is a process that controls pests by monitoring, along with cultural, biological, and chemical methods.

With IPM, you take actions to keep pests from becoming a problem. The best prevention is to ensure your trees and landscape remain healthy. You can do this by simply keeping an eye on your trees and caring for them.

• Keep trees properly irrigated and mulched.

• Check trees early in the season for insect or disease. There is often more activity in the spring and fall.

• A sharp spray with water, hand picking and pruning keep most insect and disease issues manageable.

• Keep in mind, many insects are beneficial, doing much of the work for you. They feed on fungi or other insects that may damage your tree.

• Chemical control should be used with caution as pesticides kill beneficial insects and disrupt the nature’s balance, allowing pest damage to get out of control.

If you think your tree is experiencing a pest problem, you can find help in identifying the pest or problem, and treating it using smart, effective and scientifically sound strategies. To learn more, visit http://www.ipm.ucdavis.edu/.
How to Hire a Tree Care Company

Follow these helpful guidelines to ensure quality tree work, for your young and mature trees. Improper tree work can cause irreparable damage to your tree, endanger your personal property, and may end up costing you a considerable amount of time and money.

What is a Certified Arborist?
A certified arborist is a specialist trained in the care of trees. Certified arborists are knowledgeable about the needs of trees and are educated and equipped to provide proper diagnostic and treatment services.

Certification is offered by the International Society of Arboriculture (ISA). Each qualifying arborist is assigned a certification number, which is retained throughout his or her professional life. It is your right to request the current status of certified arborists and to request their certification number. We strongly recommend that you confirm the arborist’s certification using www.treesaregood.org.

Ask about and verify the following professional attributes before hiring a tree care company or arborist:

- Current business license in your city or county
- Proof of the company’s insurance policies
- Workers Compensation insurance coverage
- General liability insurance coverage
- California State Contractors Licensing
- Pest control licensing
- American Society of Consulting Arborists

Always ask for references and take the time to check them out. Ask for the address and location of trees they have worked on recently, so that you may see examples of their work. Always get more than one bid and examine the bid specifications.
If your home qualifies, you can receive up to 10 properly placed energy saving trees from Sacramento Shade – a community collaboration between SMUD, Sacramento Municipal Utility District and the Sacramento Tree Foundation.

One of the hallmarks of Sacramento Shade is stewardship. Our Stewardship Department is available to answer tree questions, call 916-924-8733 or email treetips@sactree.com.

We offer FREE pruning clinics in the winter throughout Sacramento county.

Check our website for dates and locations of pruning clinics:
To learn more, call 916-924-8733 or visit www.sactree.com

For more information about pruning, visit:
The Arbor Day Foundation – www.arborday.org/trees/pruning
University of Florida Landscape Plants - http://hort.ifas.ufl.edu/woody/pruning.shtml
International Society of Arboriculture – www.treesaregood.org

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