The One Tree Per Child
Tree Maintenance
Guide
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Introduction

Congratulations on becoming a One Tree Per Child School! The trees we planted together are now in your care and this guide is your roadmap to keeping them growing healthy and strong. Please don’t hesitate to reach out to Tree Pittsburgh staff with any questions about tree care by sending an email to onetreeperchild@treepittsburgh.org.

Maintenance Calendar

The chart below provides a quick glance at when certain tasks should be completed to ensure tree survival. Following the chart, you’ll find more detailed information about each task.

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Weeding

Weeding is an important part of tree care because when weeds grow in the root zone of the tree, they take away water and nutrients which are needed for the young tree to grow and to become established. Maintaining a weed-free mulch area around trees also makes it easier for maintenance staff to mow or weedwhack around the trees, and keeps the trees safe from this work.

We recommend weeding at least once a month between April and September, or as soon as weeds begin to take over. The photo below shows an overgrown root zone, weeding in progress, and how your trees will look after proper weeding. To avoid the situation on the left, we recommend weeding as much as once every two weeks.

Installing a weed barrier in April or May is a good way to cut down on weeding over the course of the season. Tree Pittsburgh recommends a biodegradable barrier like newspaper or cardboard. Commercially available landscape fabric works too. Just be sure to replace it annually.

Weeding tools can damage young tree roots if used too aggressively, so it’s best to pull the weeds by hand or be gentle when using tools. Imagine tree roots like a spider web one inch under the soil around the tree. We don’t want to break any parts of the web! As you pull the weeds, shake off any soil or mulch. It’s full of nutrients and good for the tree!

Remember to wear gloves to prevent injury to protect you from sharp objects like glass that may be buried under the soil surface.

It’s important to mulch trees protected by cages as well. For best access to the inside of a tree cage, open the cage at the seam by bending back the tabs. Be careful with the sharp edges on the caging material.
The trees in tree tubes will also need to be weeded. Follow these steps to weed them:

- Loosen the ties connecting the tube to the stake
- Slide the tube partially up the stake
- Pull the weeds growing in the root zone
- Carefully slide the tube back into place, making sure to cover the entire lower stem of the tree
- Tighten ties
- If you have smaller hands, you can bend the cage openings and reach through.

Be careful not to break the young branches during this step! It may be easiest to have a partner to help. One person can fold the branches while the other slides the tube down over the tree.

**Watering**

Water is vital for tree growth. Both recently planted and young trees (1-5 years) need more frequent watering than established trees. The amount of water each tree needs depends on the width of the trunk. Trees should be watered at a rate of 10 gallons per week for every inch of trunk diameter. For example, if a tree has a trunk width of two inches, then it should receive 20 gallons of water per week. Newly planted trees should be watered once a week if there has been no substantial rain (less than one inch).

The trees planted in your schoolyard may either be caged, in a tube, or have a bark guard on them to prevent damage from deer and other elements as seen in the images below. The trees in the cages and tubes will need approximately 10 gallons of water each week.
You can water the trees using a hose or a bucket. With either method, water the tree slowly to allow the water to soak into the root zone. If the water is applied too fast, it is more likely to run off into the surrounding ground away from the root zone.

If you are using a hose to water the tree, use low pressure to avoid washing away the soil and mulch from the roots. Because young tree roots are growing just below the surface of the soil, it is important not to expose them to the open air as they can dry out and kill the tree.

After watering the tree, inspect the base of the trunk and clear any mulch that may be touching it to prevent trunk decay.

**Mulching**

Mulch improves soil properties, provides nutrients to the tree, and retains moisture around the root zone. Don’t forget to weed before you mulch!

The first step is to spread a two-to-three-inch flat layer of mulch or wood chips around the root zone of the tree. Avoid piling mulch up to touch the tree trunk (known as *volcano mulching*), as this can introduce decay to the bark and will eventually kill the tree as seen in the left image below. You should apply mulch to the trees once a year in order for the tree to get the most benefit.
Tree Protection

All trees we plant receive protection materials because they are at risk of damage from animals, weather, and lawnmowers. This section describes the types of protection and how to take care of them.

Staking trees allows them to remain stable in their planting location while they grow their root systems. We use various types of stakes to support trees depending on the type of trees being planted.

If the stakes are knocked loose by mowers, or weather events, they should be reinstalled. Check the stakes at each maintenance session.

Be sure to wear personal protective equipment (e.g. hard hat, safety glasses, and gloves) to prevent injury.

Tree Tubes and Tree Cages

The smaller trees we use in plantings are known as container-grown trees, and they’re small enough to be eaten by deer or rabbits. These trees are protected with either a tube or a cage after planting.

Tubes are used for trees that will eventually get taller and grow a single trunk. They act like small greenhouses that let the tree grow inside until it is big enough to 'pop' its way out along the tube’s vertical perforations. Tubes should typically remain on trees for 5-10 years.

Cages are used for shrubby plants that stay wide, or when aesthetics are more important in a managed lawn or landscape.

The stakes we use to support the protection of container-grown trees are attached to the tubes and cages using either reversible zip ties or large bread ties. The photos here show two different young trees with caged protection (left) as well as tube protection (right).
Caged and tubed trees will either have wooden stakes or fiberglass stakes. Caged trees generally have two support stakes and two ties on each stake. Trees with tubes have one support stake with two ties to ensure a secure and durable connection.

If you encounter a tree that needs the protection to be reinstalled, find a partner to help you place it around the tree. The branches on young trees can be fragile and an extra set of hands can help with folding the branches in while the other installs the protection.

Stakes and deer protection must not be removed from the tree for 5-10 years or until the tree trunk is at least 3 inches in diameter to avoid deer browsing, which is when deer feed on trees. Instead of grazing like cattle, deer selectively bite and nibble tree branches to eat, and can generally browse up to a height of 5 feet above the ground. If the protection is removed before the tree is ready, it may not survive.

**Balled and Burlapped Trees (B&B)**

Balled and burlapped trees are the larger, taller trees used in plantings. These trees have a ball of soil around their roots, which are wrapped in burlap. Stakes are used to keep the tree upright until the tree can support itself on its own.

B&B trees usually have two or three stakes and are attached to the tree trunk with a piece of webbing called Arbor Tie (as seen in the photos below). B&B trees are larger in size than our container-grown trees and require a sturdier stake to support them.

Stakes should be kept on the B&B trees for at least one year after planting to keep the tree upright and until structural roots grow in the soil to support the tree on their own. These trees also require a bark guard to protect the exposed lower trunk from deer and lawncare machinery. Bark guards are attached to the tree using either reversible zip ties or large bread ties and must stay on the tree for 5-10 years or until the trunk width is at least 6 inches in diameter.
Pruning

Pruning is important for the health of a tree for several reasons. Pruning encourages the tree to grow up and out of the top of the tree protection, to eventually grow tall enough for the lowest branches to avoid browsing from deer and to be clear of mowing activities.

Newly planted trees need to be in the ground for at least one year before being pruned in order for the tree to adjust to its new home.

Winter is the best time to prune trees because they are dormant (not growing). Pruning should be done only once a year.

Pruning tools are sharp and sawdust in your eyes is no fun! Be sure to wear personal protective equipment (safety glasses, and gloves) to prevent injury.

Use clean and sharp tools for a clean pruning cut, and sanitize pruning tools with 70% isopropyl alcohol before you start pruning and after pruning each tree to prevent the spread of disease. Generally, branches under ½” width can be pruned with pruners, and over ½” it’s best to use a saw. The photo to the left shows different parts of the tree branch and trunk to help as you plan for pruning work.

Here are some tips to follow when pruning trees:

- Make pruning cuts at a slight outward angle. Avoid cutting through the branch collar, which is the swelled area on the underside of the union between the branch and trunk” (see image above). The photo to the right shows how a good cut should look after pruning.
- A branch that is pruned correctly will best allow the tree to heal over the wound, and minimize the likelihood of disease and decay.
- Remember the “3 Ds”: Prune dead, damaged, or diseased branches first.
- If you are pruning a diseased branch, re-sanitize your pruning tools before making any more cuts to prevent spreading disease to the rest of the tree.
• If you encounter a tree that is stressed or diseased, then only prune dead, diseased, or damaged branches. Trees that are unhealthy will not tolerate being pruned the same amount as a healthy tree.
• Do not prune more than 25% of the branches of a healthy young tree canopy at one time to prevent stress to the tree.
• Also, be aware of branches that are rubbing across each other. Over time, crossed branches can cause damage to the bark and create a wound for disease to enter the tree. If the tree is healthy, it is best to prune crossing branches when possible, but do not prune more than 25% of the branches of the tree. If you have a tree that is unhealthy, you need to wait for the tree to recover before pruning anything other than dead, diseased, or damaged branches.

Be sure to not make any flush cuts (a pruning cut removing the branch collar and branch bark or leave stubs (a portion of the branch that remains sticking out on the tree) as it can introduce disease and decay into the tree. The pictures below show an example of a flush cut (left) and stub cut (right).

And there you have it! With this guide, you’re ready to keep your trees healthy and strong for years to come. Thank you for caring for your trees!

You can always reach out to us at onetreeperchild@treepittsburgh.org with any questions or suggestions for this document. We’re here to help!
“You cannot protect the environment unless you empower people, you inform them, and you help them understand that these resources are their own, that they must protect them.”

-Wangari Maathai