

Creating a Schoolyard Tree Nursery

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Growing your own trees is a great way to encourage a life-long friendship with a larger family of living things. When students are involved in collecting seeds, and seeing the growth and development of seedlings over a period of time, they begin to understand that trees are dynamic, living things, and not just pieces of wood stuck in the ground.

A range of curricular activities can be tied in with the growth of young trees. Which trees grow the fastest? Why? Do some get more shade than others? How does this affect their growth? Are any animals or insects munching on your trees? What clues do they leave behind? Are the same kinds of trees growing in your neighborhood? Where do they grow (wild, cultivated, wet, dry)? What other kinds of plants and animals can be found nearby?

Frequent exposure to the young seedlings can help students, parents and teachers easily recognize different types of trees and become familiar with what each needs to grow and thrive. As the trees grow bigger, students can participate in choosing suitable permanent planting locations.

A tree nursery is also a wonderful symbol for progressive environmental education. Through respectful observation and positive involvement, we can all learn to play an important role in the processes of renewal and restoration. Growing trees is an adventure where there are no failures, just great opportunities to learn together. And it can all begin in your own schoolyard!

Start Small

A nursery can be a perfect place to learn basic skills before moving out into the larger schoolyard. Seedlings grown in a clearly marked nursery area are much less prone to damage by trampling or lawn mowing than those planted directly in their permanent sites. When they're bigger, they can be transplanted to their new homes, already accustomed to the soil and weather in your schoolyard.

You don't need much space to get started. Most important is a location with some protection from sun and wind, and access to water. Sometimes the school building itself breaks the wind and provides shade. An ideal location will have dappled shade, with a touch of sun for plant growth. Commercial growers often put shade frames over their young plants (a simple frame covered with snow fencing).

Choose a location that is easy to water. A space close to an outdoor faucet is a good choice. If you're able to collect rainwater, that's even better. While young seedlings don't require a lot of care, they need regular watering. If you're lucky, Mother Nature will do the job for you. If not, make the task as simple as possible.

It is surprising how many young trees can be grown in a small space. A growing bed 1 x 3 meters can support roughly 20 to 30 young trees (to 1 meter high) or several hundred tiny trees in their first year or two of life. A space of 3 x 3 meters would give you enough room for two growing beds with walking paths all around.

Preparing a Growing Bed

You will need to prepare your site before planting begins. We prefer raised growing beds when working with children in the nursery. Here, the plants are growing slightly higher than the walking paths. It helps us all to remember where to walk, and reduces soil compaction around the young trees.

Make sure your growing beds are no wider than 1 meter, so that the plants can be tended easily from either side without walking on the bed. Use boards or logs (up to 20 cm high) to surround the bed, and add a light soil mix to fill it. You can dig up the soil that is already there (be sure to shake out and remove sod and weeds) and top it up with soil from the path area if necessary. Mix in about one-third compost or peat and a sprinkling of bone meal to promote healthy root growth. If your soil is heavy clay, some sand will help to loosen it up.

Seeds or Transplants?

Several schools in our area have started by planting young trees from local growers or forest stations. These are not expensive, and are sometimes available free of charge to schools. You simply order the number and species you want, and then transplant the tiny trees to their nursery when they arrive. Here, they get loving attention for one or two years and then are moved to a permanent planting site.

Another approach, which offers an even better learning experience, is to grow your trees from seed you've collected yourselves. This is a great way to learn how and where trees grow, what is found in your area, and what kinds of plants usually grow together. Go for walks in nearby natural areas and see what's growing around you. Taking along a local naturalist or a good field guide can help you get started. We like to focus on plants that are native to our area. Since this will change from place to place, check a basic reference book or call your local forest station to learn which trees are part of your heritage, and how to recognize them.

Spring Seeds

Each kind of tree has an optimum time of year for seed collection. There are several types of trees whose seeds mature in late spring or early summer, and most of these seeds will grow without much pampering. If you look closely, you will notice that many of these early birds produce their flowers before the leaves come out. These flowers tend to be small and unobtrusive, but you will see a flush of color on the tree for a week or two before the leaves unfold. Trees in this category include elm, silver maple, red maple, and poplars. Their seeds will be ripe in late spring, and you can often pick them right off the tree or collect them from the ground. Don't wait too long, though, or most of them will have blown away!

If you scatter the seeds over a prepared seed bed, and keep them fairly moist, many will sprout without any coaxing. Be sure to label all trees and seeds. Waterproof markers on wooden stakes work well. Keep a paper map indoors of what you planted where, and when, in case the stakes are pulled up.

Young seedlings should not be allowed to dry out. You can reduce the workload by covering the soil surface with an organic material such as leaves, straw or wood chips. This will help to conserve water and keep down weed growth. Water only when the surface feels dry to the touch, so you don't waterlog your seedlings. A watering can is a perfect way to deliver a gentle flow of water.

Fall Seeds

Autumn is another important season for seed collection at school. The seeds of many trees ripen in the fall, and can be directly planted in the tree nursery at this time. Sugar maple, Manitoba maple, oaks, black walnut, white ash can all be collected when the seeds are ripe, and planted directly outside in seed beds. You can also look for seeds inside the cones of evergreens such as pines, spruce and cedar, but they will blow away soon after the cones open up. Collect the cones just as they start to open and store them in a paper bag. This way, you can catch the seeds as they fall out.

Nuts, especially, must be protected from foraging squirrels by a wire cover (chicken wire or hardware cloth). If you're using raised growing beds, you can staple the wire directly onto the wooden frames. Many of these later ripening seeds need to be exposed to a cool winter period before they will grow. It's nature's way of ensuring that they wait until growing conditions are ideal. If all goes well, you will find lots of sprouts the following spring.

Long-Term Care

While young seedlings don't require much care, be sure not to forget about them. Arrange for families to share summer maintenance, and plan the occasional weeding bee. It's not good to let the weeds get taller than the trees! Spending a little time regularly ensures that the work load is pleasant and manageable.

If you find that your seeds sprout and grow up too close together, you can space them out when the weather is cool. Just dig them up and replant a little farther apart and water well. You may have to repeat this thinning process as the trees get bigger in the next year or two. The best time for transplanting is spring or fall when the trees are dormant.

By the time your trees are about 1 meter high, you'll probably want to move them to a permanent planting site (or a bigger nursery area!). Dig them up carefully in early spring or late fall, trim up the roots a bit, and transplant them in the same way as for trees from commercial nurseries. Remember to replant the tree at the same depth it was growing in the nursery. A color change on the bark of the trunk will show you where ground level should be.

Pointers for Success

Make sure that the students are involved in the whole process. They love to go on excursions to collect seeds. When they've helped to plant and tend young trees in the nursery, they'll also be more protective of the trees when they're planted out in the main schoolyard. Invite students from all grade levels to participate if possible.

As with any schoolyard project, it helps to involve as many people as possible. Make sure the caretakers know what you are doing and are supportive. Maybe they will even help to water now and then. Perhaps a parent in the community can help you identify trees or would love to help collect seeds. Members of local horticultural or field naturalist clubs can also be valuable resource people.

Although growing your own trees takes longer than buying them, starting a tree nursery can be a wonderful foundation for all schoolyard projects, and a fabulous opportunity to make positive links with the living world around us

Green Teacher Magazine is an excellent resource for teachers. Their phone number is 416/960 1244.