

Inspiring Your Little Johnny Appleseed: Produce No Waste

Natural, raw intellectual energy is one of the most powerful (and undervalued) energy resources that we all have. It is this inquisitive, resilient characteristic that will empower people to design lives, land, and communities that use and value local food systems. Our children have this in spades - pun intended! Let's explore now how you can catch, store, and empower children's natural curiosity through activities that challenge children to be solutions-based thinkers, to produce no waste, and regenerate their mind, body, and the earth.

Using **natural, play-based experiential education**,
we *design* our learning, living, and community landscapes.

We explore how to and why we value:

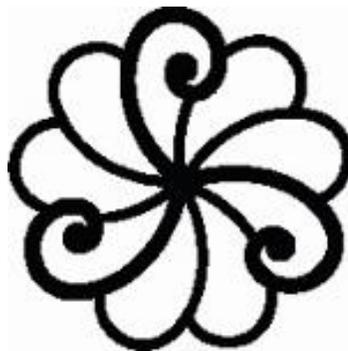


Care of People
Care of Earth
Return of Surplus (to enrich the first two)

Self-empower ourselves as:

Problem-Solvers
Empathetic
Resilient
Mindful
Innovative
Ethical

Kind
Inquisitive
Driven



Develop skills to take action and be a CEED of Change:



Observe and Interact



Use Creativity and Adapt to Change



Self-Regulate and Accept Feedback



Use and Value Resources



Value Diversity



Design from Patterns to Details



Integrate Rather Than Segregate



Small and Slow Solutions



Catch and Store Energy



Obtain a Yield



Use Edges and Value the Marginal



Produce No Waste

Inspiring Your Little Johnny Appleseed Produce No Waste

What are some natural, play-based experiential education ideas for our young Johnny Appleseeds? Let's start with the principle of looking at patterns down to details.

If you have a lot of apples that you are trying to use up and say you want to:

- Juice them (Obtain a Yield), and you have extra juice, you then boil extra juice into shelf stable apple syrup or (one step further into) apple molasses (Catch & Store Energy). While gently boiling down you can sip your juice and separate out the seeds from your apple pulp to make [seed mandalas](#) and now you have leftover pulp with which you can make table top [apple cider vinegar](#) to take home (Produce No Waste). (Note: The ground up pulp can also be fed to the chickens or the worms, or returned back to the tree to cycle the nutrients even after making vinegar. It makes very good compost being so finely pulped, the large amount of surface area exposed leads to very quick decomposition.)

Or, let's try this again.

- Say we make this [thousand layer apple cake](#) (I love this cake and do it with various fruit, I also halve the sugar and essentially slowly cook/dehydrate it, chill before eating). Now, we have our peels leftover. While we bake our cake, we dry the apple peels in the oven as well to make our own tea/tisane mix with apple peels. Consider adding dried elderflower, or mint, or lemon balm, or ginger, or a spice mix. (Note: The apple mix can be sent home with instructions for brewing mulled apple tea or making an infused kefir or other cultured homemade soda. Use tea mixes to make our cultured sodas instead of juices, and it works splendidly. This can be as simple as water, sliced apples, and a cinnamon stick.) Then we can use our [seeds to make necklaces](#) and our cores to make [star prints](#) on paper or dry them as well for [potpourri](#). Equally fun, you can mince up the cores with seeds to be used in your scrap paper making.

Wait, what about this...

- Let's say we make a very simple cooked apple sauce for either freezing or bottling. We partially or just cover our whole apples with water. (Note: If you don't want the skins, you can peel and dry for potpourri or tea or paper making.) Bring to a gentle boil and cook through. During this time, it is good to prepare jars if jarring or other packaging and labels. This step can be done in advance and mixture cooled down. Let cool and process through sieve or food mill, saving the seeds. Rinse and spread seeds to dry while boiling sieved apple sauce again with any added sugar or spices. You can take it to an apple butter or apple cheese state as well depending on what you desire. Funnel apple sauce into jars while still hot warm and prepare hot water bath. Process jars in hot water bath. When you meet again you take your saved seeds, using a [piteba oilseed press](#)

or the like, and make [apple seed oil](#) (a healing cosmetic oil). Now you can extend the activity by making a cream, salve, or lotion.

To encapsulate:

Apple or Pear Fruit:

- Juice for Cider
- Cider can be turned into Apple Syrup or Molasses
- Make a variety of baked goods, the simple Apple Cake being a great one.
- Apple or Pear Sauce, which can also be turned into butter, if cooked long enough, or a cheese if enough under ripe fruit is used for pectin, or dried on sheets for fruit leather.
- Under ripe fruit or crab apples are great to make concentrated liquid pectin for jam making endeavors.
- Under ripe fruit or crab apples are also great to use in chutneys, relishes, or pickled.

Pulp:

- Use to make easy table top vinegar.
- Use in paper making.
- Animal feed, including worms.
- Great for compost.
- Can be incorporated into baked goods or porridge for extra fiber.
- Use as a face mask or body scrub, fresh or dried. Warning: Can be messy!

Cores:

- Cut in attractive shapes and dry for use in potpourri.
- Use in paper making or as a circle star print stamp.
- Compost

Peels:

- Dry to use in tea/tisane mixes or potpourri
- Candy and eat as a chewy treat or decorate desserts
- Can use to infuse sugar, honey, or white vinegar

Seeds:

- Use in Seed Mandalas
- Make Seed Jewelry (seeds strung into necklaces, bracelets or anklets, or place apple seeds in a vial and tie pretty string around vial for Johnny Appleseed necklace)

- Press for cosmetic oil to use in soap making, candles, and cosmetic moisturizers

Wood (leftover from pruning): Don't throw it out or burn!

- Mulch into chips for smoking and barbequing.
- Use in hugelkultur beds.
- Use to make wands, staffs, and rods

Apple Blossoms:

- Dry for tea
- Distill for Apple Blossom Water/Hydrosol for culinary, medicinal, and cosmetic use
- Infuse in oil or vinegar for cosmetics or perfumery

Interesting Extension Resources for Learning about Apples

<http://www.missedinhistory.com/podcasts/the-life-of-johnny-appleseed/>
<http://www.missedinhistory.com/blog/missed-in-history-johnny-appleseed/>
<http://www.history.com/news/hungry-history/all-about-apples>
http://www.huffingtonpost.com/2012/05/19/apple-facts-crabapples-kazakhstan_n_1529534.html
<http://www.healthdiaries.com/eatthis/10-health-benefits-of-apples.html>

Community **E**xperiential **E**ducation by **D**esign

Sowing a CEED of Change



Our PERMIE KIDS programs are experiential, inquiry-based education programs. With our programs, children not only explore units of inquiry that integrate all the major subject areas, but also critical life skills. Our children become **p**roblem solvers, **e**mpathetic, **r**esilient, **m**indful, **i**nnovative, **e**thical, **k**ind, **i**nquisitive, and **d**riven, in other words PERMIE KIDS.

Currently, we offer three in-person programs:

1. Bi-Monthly Workshops: Earth and Me



Let's cultivate a community that cares people the earth and initiates our children into exploring these values by embracing an attitude of playfulness. This program is about getting our hands gloriously dirty and learning with the earth as our educational mentor. You and your child will not only learn new knowledge and skills, but will be given the tools and resources to actively apply those things learned in your own home and neighborhood.

2. Bi-Weekly Program: PERMIE KIDS CEED



Children use the resources available on our urban homestead and in our local community to help design the learning landscape and are initiated into the shared community values of care of people, care of earth, and return of surplus to further care for ourselves, others, and nature. Our children have the opportunity to design, build, and interact with elements of our homestead which include a budding food forest, annual and perennial gardens, and domestic and wild animals. Alongside our children, we learn to not only value and develop academically, but holistically.

3. Weekly Program: The Problem is the Solution



Inspire children to identify the challenges and think about a multitude of ways to turn that around into something that helps children care for themselves, others, and the earth.

<https://www.permiekids.com/experiential-education-programs-for-children/>

Earth and Me Hand-in-Hand



Play is not wasteful and learning happens throughout life. Let's cultivate a community that cares for people, the earth, and initiates our children into exploring these values by embracing an attitude of playfulness. This program is about getting our hands gloriously dirty and learning with the earth as our educational mentor. The goal is to help children (and those of us with bigger shoes who are dedicated lifelong learners and perhaps also children at heart), as Richard Louv would say, to live in nature and learn to take on personal responsibility as active, regenerative elements in our human and natural ecosystems. In the Earth and Me Hand-in-Hand classes, we use Mother Nature as our guide to help us individually and collectively learn how to care for ourselves, others, and the earth.

This is a Community Experiential Education by Design (CEED) program, which means that it is not only about the children's inquiry but modeling and mentoring our children collectively as a community that values inquiry, innovation, and solutions-based thinking that enriches individuals, families, communities, and the earth. If you choose to join us, come prepared to not only learn how to further self-empower the educator within, but also the lifelong learner within. The Earth and Me Hand-in-Hand program is learning to *work with nature* - nature of self, nature of relationships with others, and our relationship with the world around us.

By the way, just as nature adapts, so do we. The classes are *rain or shine*. Dress appropriately and expect that we will shift our plans to work with nature rather than against it!

In every class, you and your child will not only learn new knowledge and skills, but will be given the tools and resources to actively apply those things learned in your own home and neighborhood. The classes below are just the start of a journey.

- WHO: Recommended Ages: 10 and under with a responsible adult
- WHERE: Mendez Homestead between Upper Marlboro and Baden, MD
- WHEN: In all cases the spring classes take place on a **Saturday from 4:00 – 6:30 p.m.** (please note the time change from the classes in winter)

<https://www.permiekids.com/earth-hand-hand-program/>

Spring Session Classes (Mar-May)

March 14, 2015 – Growing a Garden to a Food Forest

Learn how to build a no till garden as big or as small as you like using recycled materials. In addition, children will learn about how strawberry plants are propagated, when and how to plant strawberries, and what sort of other plants to plant alongside the strawberries (guilding). You and your child will not only take home knowledge for building your own no till garden, but also the three strawberry plants to transplant into your own yard (or grow in the pot). That's not all. This class goes beyond the normal gardening class by allowing you and your child to use this knowledge to help build an entire food forest!

March 28, 2015 – Bee Natural, Bee True

Learn how to make a Bee Hotel: a house for mason bees and other solitary bees. Think all bees live in hives, well think again. Your child will learn the difference between solitary bees and honeybees. Note – solitary bees are harmless, not aggressive, and good pollinators for the home garden. They rarely if ever sting unless trodden on or squashed between your fingers and they do not have painful stings like those of honeybees. They do not live in hives or build honeycombs, and they do not swarm. The children will learn about solitary bees and construct their own Bee Hotel to take with them, place in their yard (or other suitable location), and attract these beneficial pollinators.

April 11, 2015 – Art of Science I

Explore the aesthetic beauty of nature and science. In this class we will be building raised garden beds and natural forts, and making homemade seed starters and rock gardens.

April 25, 2015 – Break It Down

In this class we will learn about the importance, health, and regeneration of soil using compost – traditional composting as well as vermicomposting (worms!). You and your child will build your own compost bin, learn how to properly layer and tend to the compost, and you will take home your own batch of special composting worms to also start your own kitchen vermicompost project. Come prepared to seriously get your hands dirty!

May 9, 2015 – Art of Science II

Explore the aesthetic beauty of nature and science. In this class we will be designing and building an herb spiral, bird house and feeders, and inspiring creativity with outdoor art stations. (You do not need to have taken the Art of Science I to join us of this class.)

May 16, 2015 – Doing “Less with More”

Through interactive storytelling and dramatic play, we will learn about the traditional Native American story of the Three Sisters. Using this story, we will explore the value of designing a garden using the concepts of polyculturing (planting lots of different kinds of plants together in a small space) and function stacking (ensuring that every choice and action taken has a ripple effect of positively enriching two or more things). Children will have to integrate design science, technology, mathematics, and the arts to plant a no till Three Sisters garden plot. To elaborate on the idea of function stacking, children will get a chance to interact with our chickens. There will be a rooster, laying hens, young chicks of different ages, and even eggs in the incubator (with some luck we might have some hatching during this event!).

<https://www.permiekids.com/earth-hand-hand-program/>

PERMIE KIDS Bi-Weekly CEED Program



This is a Community Experiential Education by Design (CEED) program where the parent-educators are mentored and supported. Your knowledge, skills, and experiences are valued and designed into our learning landscape. We facilitate our children's journey to think critically and self-empower. They are encouraged to ask and seek answers to questions like, "How can I be a solutions-based thinker and solve my challenges?"

Through play-based experiences, we will help our little sprouting storytellers explore the foundational knowledge and skills of language and literacy, to include oral storytelling, nonverbal communication, reading, and writing and drawing. We also use nature and our children's passions to inspire and challenge our children to find and follow their own paths in life.

Children, from the youngest ages, are natural learners who love to learn, navigate, and design using the patterns of language, movement, sounds, people, and nature. Their specific interests and choices for expression will differ wildly, but in the PERMIE KIDS program our children get to explore, design, make, climb, construct, deconstruct, plant, harvest, inquire, and more... all in the name of learning. It is not only knowledge that you and your child will take away from this program. You will have the opportunity to learn about and experience homesteading, gardening, farming, and living, as well as traditional life skills once passed from generation to generation.

WHO: Children 2-8 years of age and under (with responsible adult)

WHERE: Mendez Homestead between Upper Marlboro and Baden, Maryland

WHEN: Choose one or both of the following days/times for the season (March 17th – May 15th with break the week of April 12th):

Sundays 4:30-6:30 p.m. (includes shared inquiry with our children with a focus on fostering both healthy inner-landscapes as well as community and earthly landscapes, mentoring and community collaboration for parent-educators, and it culminates with a shared meal)

Fridays 10:00 a.m.-12:00 p.m. (includes hands-on, minds-on experiential learning on the homestead, individual exploration, mentoring and community collaboration for parent-educators, and culminates with a shared meal)

<https://www.permiekids.com/weekday-ceed-program/>

Parent-Educators: Educational Design

Re-imagine and re-design what it means to learn, educate, and be educated. You can become the solution, empower the educator within, and help your children find and follow their passions in learning and life. Together we learn, design, inspire, and empower!

We co-design a learning culture that cares for people and the earth. Join our “do-ocracy” community in an educational journey of self-discovery and self-empowerment. You will explore the modules of learning that guide our Educational Design Community that will guide you, the educator, through the process of designing a holistic education with your child that will enable them to begin to forge their own path in learning and life.



**Just as we can design our living landscapes,
we can map our learning landscapes!**



**Better yet, we can help our children learn how to
design and navigate their own learning landscape!**

The information and resources learned during the learning modules can be used exclusively as a self-designed, child-led homeschooling or unschooling plan, as a means of enriching and optimizing shared learning opportunities within a family when a child is not in other educational groups or schools, or as a support program by schools who want to integrate parents into the school community as a valued educator who can help support personalized, child-driven learning in school and in life.

<https://www.permiekids.com/educational-design-community/>

Asking Questions about Education

Questions Help Me Focus on What I Am

If someone were to ask you about your biggest complaint about education, what would you say? Would you start by running down a list of the latest news articles about problems with children and education? Would you stop there and just accept that problems exist and cannot be changed? Now what would you say if I challenged you to turn those problems into solutions? How do we start constructively thinking about making the problems into solutions? I believe this starts with asking questions. The power of this is not just in the answers that will come, but that solutions-based thinkers ask questions. As parents, educators, and learners ourselves who are focused on helping ourselves, our children, and others find and follow their passions, learning how to ask questions is critical and one of my biggest concerns with the way education, educating, and being educated is perceived. It is the asking of questions, not the arrival at a solution that is most crucial.



It was a question that inspired me to follow my passions and forge a new educator-mentor and learning path for myself. Well over 15 years ago, while serving as an officer in the Air Force, I serendipitously found myself working as an educator for young adults who had gone through the traditional education system. These young adults didn't have the skills to think for themselves, analyze, evaluate, and synthesize information, or even have an understanding of who they were. Upon completion of my military service, I asked myself, "What do I want to do next?" I reflected on the things I had done up until that point in my life that had brought me the most joy and discovered a pattern. I was often happiest when learning, coaching, mentoring, or otherwise involved with educating. This phase of my journey was still a long time before I decided I needed to turn my attention to the learners in their earliest years who still held a natural curiosity and love for exploring and learning rather than try to "re-wild" young adults. Still, as a result reflecting on that one question I decided to pursue experiential education training and earned a Master's degree in Education focused on International Education and the International Baccalaureate Primary Years Program. That was almost seven years ago.

For several years, I was fortunate to work in some amazing alternative thinking learning environments, despite falling well within the category of the "standard education system." However, I found myself falling further and further down the experiential education rabbit hole that made working within the educational system darn right fantastical. So I sat down one day with pen and paper in hand and wrote a new question, "What do I love and how can I live a life full of that love?" It was and still is a journey in the making, but I found that for me the answer was to be found in the problem itself. Not from redefining the problem, but by asking more questions.



The problem was two-fold. First, the education system treats education as a right. I don't believe education is a right that can or should be doled out by others and bestowed upon another. I do believe everyone has intrinsic worth and with that comes the natural born right to learn and *pursue an education* as determined and valued by that individual and the communities in which he/she lives. How (and whether) each person goes about learning, what is learned (and what is not), and what is done (or not done) with the knowledge, skills, and experiences should be in the hands of the learner.



Everyone has the right to pursue a lifetime of learning. Second, most people treat the education system as something created to be separate and distinct. I believe learning, educating, and life are inextricably linked. I do not exist separate from other people and things and I have a responsibility to care for those as well as myself. Everyone is surrounded by a surplus of educators and learning opportunities each and every day if they choose to recognize these resources. Furthermore, no one "creates" something that already exists. Instead, I realized I could *creatively use all the resources around me to design* myself, my relationships, and my life. I could use, value, do, and be what I love and in the process care for myself, others, and the earth. This journey started with a question and it has been questions that continue to be my most valuable resources.

Recently, I was confronted with a question similar to the one that I started this article with, only this one was from Diego Footer, the host of the Permaculture Voices podcast. He asked his community, “What is your biggest complaint about permaculture?” Many folks in the alternative education community are familiar with permaculture in terms of edible, regenerative landscaping and organic food production practices. However, for me this ethical, design science methodology holds much more potential than how it is being used currently. In fact, I integrated the permaculture design science methodology with my love for education to design and personalize education opportunities for my children. I now help empower other parent-educators to do the same with their children.



By integrating permaculture design ethics and principles and a learner’s passions playfully and naturally, anyone of any age can design a personalized, holistic education that is more than just “academically rigorous.” Using the design principles gives not only the learners, but those who love them, a flexible patterned structure to understand and help children acquire critical life skills. How this patterned structure is filled in and exactly what form it takes is in the hands of each learner. Now young learners and educator-mentors alike have the framework to self-empower where before the traditional education system disempowered the designer within by dictating what they must learn, when, where, who will teach them, and often even confining the possibilities of how to learn. For example, regardless of the activity, these design principles help learners explore how to learn, how to find what they love, and how to make that central to who they are, what they do, and what they can do for others and the earth. Most importantly it encourages the children to become inquisitive problem-solvers.

Problem-solvers don’t just identify problems. That is only one part of the process of being a solutions-based thinker. A more vital part of the process is the ability to ask questions about the problem. To identify potential solutions, variables involved, goals, take action, and most importantly – responsibly observe and respond to continue the learning process. It is this reflective process, not the final “solution,” that empowers. Ask more questions about the results, ideas and actions tried, and take more action as needed.

It was with this mindset that I pondered Diego’s question about the biggest “complaints” in permaculture and I soon found myself asking questions about education. You see, I don’t see these two things as separate. My biggest “complaint” about permaculture is that it seems many people in the permaculture community optimistically assume that what they design and start in the landscape is something that will be lasting. They may not fully recognize that it isn’t just the landscape that needs to be designed. It is a mentality (individual and societal) that needs to be purposefully, consciously designed and practiced by each individual in their own way. To do this, people who advocate for permaculture (or alternative education, I think) need to truly value diversity. What works for one is not the choice of another and that is OK. Diversity is needed to make permaculture (or alternative education) a lasting, sustainable movement. It isn’t about finding the “right” way, but about empowering people to forge their own path with the ethical design methodology as a guiding framework. This starts by first asking, “What do I love and how do I live a life full of that love?” Why wouldn’t our children, at the youngest ages, ask and start to explore such a question, too?



Jen Mendez is a wife, mother, experiential education mentor, and founder of PERMIE KIDS. Jen was invited to write a guest post about her passion for learning and the role that permaculture plays in her approach. She has a M. Ed. in International Education and has worked with children in the U.S. and overseas from early childhood through the primary years, as well as parent-educators. She integrates an ethical, design science methodology with her love for education to help others learn to design a customized education with their children.

Reference: <http://permacultureprinciples.com/post/asking-questions-about-education/>

How to Grow an Apple Tree from a Seed

Ever wondered if you could simply pluck seeds from the delicious apple you just ate and grow them in your yard? Well, the answer is, yes you can! However, growing apples from seeds does take some effort, planning, and patience.

Part 1 of 4: Simulating Winter

In order for seeds to germinate, they need to experience colder temperatures as they would if they were to go through a real winter. Because of this need, you will have to simulate winter using your refrigerator.

Collect two different kinds of seeds. Apple trees must be planted in pairs in order to bear fruit--apple trees are not self-pollinating, so they need a different kind of apple tree to pollinate with. You can either extract the seeds from an apple you are eating, or buy apple seeds at the store. Keep in mind that growing an apple tree from the seeds you have collected does not necessarily guarantee that the tree produce from these seeds will bear fruit. Try to pick or buy seeds of apple trees that do well in your climate zone or else your tree may die once planted outside.

- When attempting to grow an apple tree from seed, you should also keep in mind that the tree produced will not have any dwarfing characteristics (meaning that it will grow to its full height of about 30 feet/9 meters). If you think you have enough room in your yard for this size of a tree, great! You should also keep in mind that trees planted from seeds could take 8 to 10 years to produce fruit, while a transplanted sapling will produce fruit in a much faster time frame.

Lay your seeds out to dry. Once you have extracted the seeds from the fruit and have gotten rid of any pieces of the fruit clinging to the seeds, you should lay them out to dry. This means simply air drying them until there is no moisture on the outside shell.

Cover your seeds with a damp paper towel. Place the paper towel and seeds into a sealable plastic bag, jar with a lid, or Tupperware box. Whatever your container is, make sure it can be sealed.

- You can also use moist peat moss rather than paper towels if you have any peat moss just hanging around.

Place your seeds in the fridge. Seeds need a period of exposure to cold temperatures called “after-ripening”. This is essentially simulated winter. During this time, the seeds will begin to grow roots and sprout. They will need to be left in there for eight or more weeks. Keep the temperature the seeds are stored at around 40 to 50°F (4.4 to 10°C), with optimal temperature being 40 to 41°F (4.4 to 5°C).

- If possible, do this during actual winter so that when you take the seeds out of the fridge, they will be aligned with the actual seasons. Planting your sprouts in the early spring after the last frost will have the best results.

Check every so often to make sure the towel stays damp. After the eight weeks have passed, your seeds should be sprouting and will have developed little roots that will be emerging from the bottom of the seed. When your seeds have sprouted, remove them from the refrigerator.

Part 2 of 4: Potting the Sprouts

Prepare your pot and soil. Your seeds will need to be planted in a small pot. Use a good potting mix. Apple seeds grow best in soil with a neutral pH level. Fill the pots with the soil and create a divot in the soil that is two or three times larger than the sprouted seed.

- Do not add any fertilizer. It is not necessary, though you can add leaf mulch or compost if you want to give you seedling an extra boost.

Place the seed in the divot of soil. Be sure to handle your sprouted seeds very gently, as their roots are very delicate. Put the seed into the soil and then cover it, making sure to gently pat the soil down. Water the seed immediately so that the soil settles around the seed and the soil stays moist.

Keep the pot at room temperature. While growing in the pot, the seed and soil should be kept at, or slightly higher than, room temperature. The seed should have access to sunlight for a good part of the day, so putting it in a windowsill that gets sunlight for some of the day is a good idea.

Watch your seedling for growth. Several weeks after planting, your seeds should begin to start throwing up little leaves. From there they will grow taller and stronger. Keep them in pots until they look strong and any risk of frost has passed. If you think your seedling is outgrowing its pot, transplant it to a larger pot and keep watering it daily.

Part 3 of 4: Planting Your Seedling Outside

Pick a location for your tree(s). There are several factors that should determine the spot you plant your tree. These include sunlight, soil, and space.

- **Sunlight:** Apple trees need full sun. This means that they should get six or more hours of direct sunlight every day. If possible, plant your tree on an east or north-facing slope.
- **Soil:** Apple trees don't like soggy feet. That means they need to be planted in soil that will retain moisture but does drain well. The soil should be moderately rich and have a relatively neutral pH level.
- **Space:** Because you are growing your tree from seed, it will grow to full size (meaning it can reach 20-30 feet/6-9 meters in height). You will need to make sure that it has enough space for its root system to grow. Plan to plant your tree at least 15 feet (4.6 m) from another tree, particularly if you are planting two apple trees in a row. Or, conversely, an apple tree can be coppiced (pruned to be short) and maintained at a height as short as 6' and still bear some fruit.

Know when the conditions are right for transplanting. Once your little sapling has gotten big enough that no one will step on it or think it is a weed, carefully transplant it without cutting off any roots. The best time of year to plant depends on your location--in Zone 8 and warmer, fall planting can work well. If you live anywhere other than a Zone 8, plant in spring, once the threat of hard frost has passed.

Remove any weeds in a four-foot diameter of the planting site. Dig a hole that is twice the diameter or your sapling's root system. Make sure that the hole is roughly two feet (.6 meters) deep. Once you have made the hole, try to loosen the soil of the walls of the hole--this will help your tree's roots to penetrate the soil.

Transplant your sapling. Gently spread out your tree's roots so they are not tangled or get bunched up in the hole you have dug. Start to replace soil all around the roots. Once you have covered the roots, pat the soil down firmly to get rid of any air pockets that might be hanging out around the roots. Fill the rest of the hole with loose soil.

- Again do not add any fertilizer or un-aged compost to the soil around your tree. The fertilizer could actually 'burn' your young tree's roots.

Water the tree in well to eliminate air pockets. After you have watered your tree, spread mulch to help your sapling retain moisture. Hay, straw, or organic hardwood chips work well as apple tree mulch. The mulch should be spread in a three foot circle around the tree. Doing this will help retain moisture and keep grass from growing and competing with your young tree's roots for water and nutrients.

Part 4 of 4: Caring for Your Tree

Water your tree. While the tree is still short (roughly 6-8 in/15-20 cm tall) the tree should be watered every 10 to 12 days. As the tree grows, however, you can cut back on the watering, so long as the soil continues to stay moist (but not soggy). As they grow, you will need to water them less frequently.

However, in the summer, water your tree every one to two weeks.

- During other times of the year, you can let nature do the rest, unless you live in an extremely dry area. If this is the case, keep in mind that the equivalent of an inch or two (2.5-5 cm) of water a week is ideal for the first year. Make sure you give it a good soaking, not just a sprinkle.

Ward off pests. If you live in an area with deer, you'll need to protect your young tree. Deer absolutely love to browse the buds on apple trees, in some cases they'll even damage the trunk itself. Mesh fencing a little larger than the tree, secured to posts will work in most cases; in low-pressure areas spraying the tree with a purchased or home-brew spray may also be effective.

- Keep away rabbits and mice by placing short wire mesh around the base of the tree.
- Spray away insects. You might find yourself at battle with insects that are causing your fruit to become diseased. You can buy an organic spray at your local nursery or garden supply store to ward them off.
- Fight the apple maggot. These are one of the most common plagues to the apple tree. Hang a baseball-sized red ball or two in your trees branches in June. Coat the balls with sticky goo like Tangle Trap, which can be purchased at garden supply stores.

Fertilize your tree when it has gotten older. Your apple trees should be fertilized each spring. Fertilize the tree after the last snow has melted away (if you get snow) but before the tree begins to produce buds. You should use a fertilizer with a nitrogen and oxide content (NPK) of 10-10-10. You should lay the fertilizer down under the canopy of the tree and should put down half a pound (.23 kg) of it for every inch (2.5 cm) of the tree's trunk diameter.

- Do not use a weed-and-feed fertilizer--these sort of combination fertilizers can hurt apple trees.

Hold off on pruning a young tree. Prune as little as possible the first few years, so you don't delay fruit bearing. You should prune off any branches that are dead or diseased. An apple tree wants to build a lot of growth before it decides to create fruit--its way of reproducing--so let it grow till it starts to bear.

- Rid your young tree of misplaced buds before they have the chance to grow into branches that you'll just have to prune later.

Train your tree. This may sound odd, but your tree's branches will need to be shaped to maximize the fruit the tree produces. Any branch that has an angle of 35 degrees or less from the trunk will need to be trained into a better angle (any angle larger than 35 degrees from the trunk). Bend a stem down so that it is almost horizontal and tie it to stakes in the ground or lower tree branches with string. Leave it tied down for a few weeks.

Thin excessive fruit. Producing too much fruit can actually be a bad thing for your tree--the excess fruit can weigh the tree's branches down and reduces the quality of the apples produced. You should thin out the fruit so that there are only one or two apples per cluster, and so that they are roughly six to eight inches (15-20 cm) apart. You'll be glad you did this when you finally get to bite into your tree's delicious fruit.

Prune a mature tree annually. Once your tree has produced fruit and filled in, you will need to provide it with annual pruning. Do this when the tree is dormant. Cut away vigorously growing stems that grow

upright (these are normally found in the higher parts of the tree). You should prune off dead, diseased, or broken branches, as well as limbs that are growing in toward the tree or that are crossing each other.

- Cut away any very low growing limbs--in general, your tree's limb should start growing roughly 18 inches (45 cm) or higher from the ground.
- You should also remove weak twigs, which generally grow on the undersides of branches.

Tips

- Before eating the fruit, check for bugs and bruises on the apple.
- Never let the tree dry up, or it may die.
- You might want to keep an eye on the precipitation in your area and watch the tree. If the leaves starts to wilt, and it isn't supposed to rain for a while, you should water it with your hose.
- Keep it in a pot until it is about 1.3–2 feet (0.4–0.6 m). tall (40-60 cm).

Warnings

- Apples grown from seed will not be anything like their parents--in fact each seed in an apple will make a different tree. University breeding programs plant thousands of trees to find one or two new commercial varieties.

Sources and Citations

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