Nature Study for the Whole Family

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Dedication

To my parents, David and Nancy Dodge, who first carried me on the trail, then held my hand as they walked beside me, and finally let me run ahead.

Thank you.

Safety First

In order to protect your family from disease-carrying ticks and mosquitos while outdoors, please wear long sleeved, light-colored shirts and long pants. Apply insect repellant and avoid mosquito-dense areas and times of day when mosquitos are most active. After your time outdoors, do a thorough check of the entire body for ticks. Remove ticks as per your doctor’s instructions. See a doctor immediately if symptoms of a tick-borne or mosquito-borne illness, such as a rash or flu-like symptoms occur. For more information contact your county or state department of health.
Above: Mussel, Periwinkles, Barnacles
Right: Tortoiseshell Limpet
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Above: Willow
Right: Mourning Cloak
Introduction to Nature Study

As a naturalist who grew up in the wild landscapes of Maine, I know the value of unstructured play in nature. I believe there is a bond between children and their initial landscape. It is there that children begin to understand the natural world. It is there that they develop the self-confidence that comes from real activity in a real environment.

The easy exploration of nature that was a foundation of childhood in previous generations was based on unstructured summers, weekends, and afternoons. Kids don’t often get to play in marshes and meadows anymore. They are too busy to romp freely in forest and field. Instead of taking off on their own adventures with the neighborhood kids, children are shuttled from one scheduled activity to the next. When they are home, they spend too much time indoors watching TV and playing video games, or doing heaps of homework.

Even if kids want to explore, their yards and neighborhoods are filled with turf grass and little more. The
landscape of many suburban acres has been rendered sterile by an overzealous application of landscaping techniques that take grooming to the level of high art. Urban areas have long felt this loss. Even the countryside is adopting the suburban standards of tidiness, but there is a long way to go before the open spaces there are made into the astroturf parking lots that grace so-called desirable neighborhoods.

My dilemma, and yours too, if you chance to live without the benefit of acres of land of your own, is how to give the outside back to our kids, satisfying their urge to explore, while ensuring they always come back safely. To do this we have to be engaged in an arena that was once reserved for children. We all have to go outside and play.

As our landscape becomes more built-up and our schedules fill up, this seems like an impossible task. We have our own work and chores that continually threaten to overwhelm us. Most parents are not comfortable opening the door and letting their kids outside alone. Most wonder when they could possibly collect enough free moments to go outside at all.

Though nature may no longer be in the dooryard and families find their time together fractured by outside commitments, one hobby will help you carve out time together to appreciate the great outdoors. Nature study is the pursuit of knowledge about the natural world. It is not a formal course of study with orderly lessons, but a quest that begins by immersing yourself and your family in the outdoors. Just as children played in the forests and fields around their home in decades past, you can bring your family together as you play and learn outdoors in nature.

Whether you dabble or delve into nature study, you will be rewarded in many ways. Nature walks and hikes
provide free, peaceful exercise. Close study of the wild plants and animals will stimulate curiosity about their mysterious structures, behaviors, and habits. Your family will spend memorable times together as they discover the natural world. The nature lore you discover with your children today may be passed down as a precious gift to your grandchildren in years to come.

Because family time is scarce, parents would do well to use it wisely by choosing activities that bind the
family together. Exploring your natural surroundings gives parent and child the chance to wonder together at the beauty and complexity of our world. Shared experiences on the trail foster bonds between siblings, who otherwise may be engaged in separate age-graded activities.

Nature study, unlike some louder and more distracting pastimes, allows for conversation. It satisfies all ability levels and a wide variety of interests. There are many trails to follow and an infinite variety of discoveries to be made. Nature offers a serene setting far from the everyday tensions of work and school. It can transport us intellectually, emotionally, and socially. The practice of nature study can ground your family in a shared experience of learning and discovery, a healthy foundation upon which any family can grow.

Your family’s explorations will lead to new discoveries. The places you visit will inspire your family with their beauty and complexity, bringing awe and wonder into your lives. The immersion of your family in field, forest, marsh, seashore, or desert may foster protective feelings and an ethic of care toward wild places that will guide their decision-making throughout life.

You can give your children a real childhood. You can counteract the messages of our consumer culture that say entertainment must be bought. All you have to do is join hands with your family and take a step out the door. Find the seashore. Find the forest. Find a meadow, pond, river, or weedy roadside. Walk there together. Walk there as often as you can. Explore it in the spring, summer, fall, and winter. Make it your own. Let your kids explore it rock-by-rock, plant-by-plant. Explore alongside them. Ask questions. Breathe the air. Be in close contact with nature.
These radical steps will require that you turn off the computer, TV, and video games; that you get as many members of your family together as possible, and that you get moving. It may seem impossible at first, with all the whining and complaining (from your muscles and your kids), but you will begin a journey that will impress upon them the importance of both the natural world and the family.

Find the good stuff: a blue robin’s egg, a towering stalk of big bluestem grass that looms over your head, the sound of spring peepers calling, the scent of skunk cabbage, the sight of a peregrine falcon nesting on a window ledge. Take your kids to nature preserves and parks often and from a young age so they will be confident in wild areas. Take them to places where they can get to know the plants and animals as individuals, places where they can find peace along a trail.

The strongest influences on children’s lives are the actions and values of their families. A family that demonstrates its values by getting outside, getting moving,
and getting engaged with nature teaches compassion, conservation, and curiosity with every step. It is up to you to show your family what you value. Make sure your actions match your words. Show your children that you care about nature, not just pictures of nature on Animal Planet. Do this by seeking it out at every opportunity.

There is a wild place that your family can adopt as its own, a place to begin nature study. It might be a river whose banks fall gently toward the water. It might be a pocket of woodland with tall, straight tulip trees or low, spreading live oaks. It might be a cattail swamp where red-winged blackbirds sing “chink-o-ree.” It might be a dry scrubland crisscrossed by the tracks of the coyote and desert hare, or a vacant lot filled-to-bursting with vigorous weeds.

This special place is probably in your neighborhood or not far beyond its borders. This pocket of wildness may extend for miles or be enclosed by the lines of a city lot. It may be crowded with people, or it may be empty. It may be the only remaining bit of wilderness left in your city or town. It is a place your family will come to love, and you can lead them there.

In order to claim it, to make this natural space your own, all you need to do is include it in your daily life. Walk its paths, watch its waters, climb its trees, and wade into its pools. Draw from it the questions that will lead your family on a lifelong quest for knowledge and beauty in the natural world.

Look, listen, smell, touch, and learn. You will be surprised by the wonders that are uncovered by patient study and the use of all your senses. Explore the landscape with your family, walk in beauty, and make memories along the trail. Take the time to truly see your surroundings, to know your homeground, and to become
friends with your wild neighbors. Make the practice of nature study a part of your daily life. Through its lens you will be able to closely examine an ever-expanding and endlessly-fascinating world.
Above: Birch
Right: Compton Tortoiseshell
A Snail’s Pace

The naturalist Edwin Way Teale writes, “The way to become acquainted with an area intimately, to appreciate it best, is to walk over it. And the slower the walk the better. For a naturalist, the most productive pace is a snail’s pace. A large part of his walk is spent standing still.”

Children, then, must be instinctive naturalists. Watch their non-linear, undirected ramblings through fields or forests as they move from one point of interest to the next. Freed from time constraints and ideas about ‘productive’ ways of spending time, they can get lost for twenty minutes watching the workings of an anthill or the construction of a spider web.

The harried adult, confident that he or she already understands the building of a web, may not even pause a moment. At most he may mutter a bland acknowledge-
ment, such as “Oh, there’s a spider building a web,” that dismisses this incredible feat of aerial engineering in a single sentence.

To allow learning at a snail’s pace, rely upon nearby places for nature study. They offer the greatest opportunity for exploration because there is no pressure to see it all, as there would be had you driven five or more hours to a national park. If you are but five minutes from home (or if nature can be found in your backyard), you won’t have to rush your family when they are enraptured by a spider building her web or a black duck sitting on her nest. You will be able to afford the time to stand still, living in the moment, and immersing yourself in nature rather than spending your time rushing around in search of it.

One of my favorite places to take Sebastian when he was two was Hansell Park in Buckingham, PA. This municipal park is a far cry from wilderness. Surrounded by monstrous condos and housing developments on two sides, this multi-use facility has several large playing fields, a playground, a running track, and large mown areas. The majority of the land is no better than the sterile backyards that surround it and is probably typical in design for parks of this type. What Hansell Park had going for it that many others do not is that some of the land around the pond was reclaimed with native plants, including a knock-your-socks-off fall display of asters, and a strip of rich forest remains between it and a church graveyard.

Because Hansel Park was close to home, it was easy to visit, and we went at least once a week. In this way, we were able to search out its secrets slowly. Our winter trips to Hansell Park involved playing on the playground, sitting on the bridge to watch the mallard ducks, and walking on the nature trail through the
forested strip. Since the pond fish lay dormant in the deepest waters, no bees were abuzz in the asters, and no caterpillars hurried across the crushed stone bike paths, it was a welcome surprise when Sebastian and I spotted hard evidence of at least one insect’s winter survival. It was a pleasant reminder of the fluttering, whirring summer to come.

Well camouflaged among winter’s grays was a suspicious looking bulge on the side of a twig. Closer inspection revealed a cleverly designed cocoon. Silky gray threads were bound into a three-inch pouch.

Its side sported a large hole; this cocoon had been noticed before. A bird must have found it and used its beak to get to the pupa inside. I snapped the empty case off along with its twig and tucked it in my pocket for later identification. Sebastian had learned about insect pupae from a National Geographic video and was pleased to talk about the cocoon for a while.
We had not moved more than five feet down the trail when Sebastian spotted a yellowish-orange, plastic-looking blob glued to the bottom of an arched blackberry cane. Having seen plenty of these attached to the walls of the praying mantis exhibit at the zoo, I knew it was an intact mantis egg case, waiting for the turn of the seasons to trigger the hatching of the young mantids.

Sebastian was soon off again, having spotted an animal trail leading into the woods. Had I been teaching a class, I might have called the student back for a discussion of the praying mantis, but parenting is not teaching, and nature study is not schoolwork. I felt that Sebastian was not engaged with the egg case, so I left it and followed him.

The animal trail led into a green mossy grotto. Sebastian named it our Forest House. He patted the cushions of moss and remarked at how soft they felt. Toddlers and preschoolers love tactile engagement, and
moss is a pretty cushy, hands-on lesson. It was also a welcome relief for eyes used to gray sticks against featureless white snow.

The Forest House even had its own running water. Sebastian followed a rivulet of snowmelt until it disappeared into the ground. Perplexed, he asked where the water went. I showed him the stream it joined after it traveled through an underground tunnel of soil held fast by a net of tree roots. Sebastian was in his train phase and loved tunnels, so he spent considerable time walking over the water on this naturally engineered one.

It was at the outlet of the tunnel that some scat caught my attention. Moving closer, I realized it wasn’t poop (to use the preschool vernacular), but an owl pellet consisting of a regurgitated bundle of undigested bone and hair, rejects from an owl’s dinner. This kind of forest find may be the only daytime evidence that an owl has perched in your part of the woods. Since at the time, my son did not like to hear about animals eating other animals, I just told him that it was proof that at night, an owl chose to sit in the trees above.

Three small discoveries of animal signs in such a small area may seem surprising because as adults we are not used to slowing our pace, attending to small things around us, or focusing at ground level. Sebastian and I spent at least a half-hour in a fifteen by fifteen foot segment of the forest. At no time was I in a hurry to move him along. The snail’s pace suited us that day and rewarded us with interesting questions. I’m sure an older child and his parent who had used the time to examine all the bushes and tree bark, to lift up some rocks and stones, and comb through the leaf litter, would have found close to a hundred animal signs in the form of tracks, scat, shed skins, and overwintering eggs. There
is life all around us in the forest; it is just on a much smaller scale than we have been taught to expect.

Once your family has logged some time in the forest, fields, or deserts, the landscape will cease to be a jumble of shapes and colors. The view will resolve itself into a background of familiar plants and features. Against this background, finds like owl pellets and cocoons will stand out.

The wonderful thing is that you don’t have to know what you have found to enjoy the process of discovery. In fact, the dual discovery of finding something in nature and then later identifying it will impress upon your child that you are an active learner, and unlike the scripted questions at school, answers aren’t always immediate. Sometimes, if you really want to know something, you have to work hard. You may need to consult experts by reading their books or via the Internet.

The identity of my cocoon? Surprisingly enough, I found a matching cocoon in the bobcat diorama at the Academy of Natural Sciences in Philadelphia. The label, however, identified it only as a “moth cocoon.” Well, I already knew that! None of the docents on the museum floor had an answer when I asked them the identity of the lone cocoon. I quelled the feeling that I should be handed the home phone number of a staff entomologist and decided to enjoy the visit. There was always the local library.

At first I thought the library would fail me too. They had one book on moths. This field guide had sixty-two plates of moths and a single black and white plate of common moth cocoons. I feared the worst, but luckily one was a match. Apparently, the Cecropia moth with its bright red body and beautiful red splashes and stripes on its wings was an inhabitant of our not-so-wild park.
On another snail’s pace walk, Sebastian and I followed the green arrows around the perimeter trail at Churchville Nature Center. At one point, Sebastian noticed the immense size of the beech trees and took to comparing their girths by seeing how far around their trunks he could wrap his arms. Some of the trees were of considerable diameter, and it would have taken four Sebastians to encircle them. Had I thought of it at the time, I might have stretched my longer arms around from the backside of the tree and clasped my hands with his, but I was content watching him hug the trees without any encouragement from me. Thus was my commitment to the lackadaisical style of a toddler-friendly nature walk.

The scene brought to mind my first formal attempt at nature education. The summer I was nineteen, I was a stable hand at a summer camp for girls in Maine and had been asked to fill in as nature teacher for a day, as my interest in the subject had been well noted. It is a great example of how rushing things and orchestrating everything just doesn’t work with children.

The group I was given ranged from age four to fifteen. We had just left the lodge when I asked them to examine the bark of a tree on the lawn. Somehow I’d thought that because I liked to look at the bark of trees, finding lichen, moss, and insects there, these kids would respond to my interest! Ha!

With no teaching experience, not even one night of babysitting, I had no method of engaging them, for encouraging them to trust that I could lead them to some discovery or adventure. They looked on disinterestedly as I pointed out the moss and lichen. Scrambling to regain their attention, I told them to take turns hugging the trees. I figured they’d learn to love the trees a bit more from this gesture of affection. But these were
wealthy, sophisticated kids. They scoffed. The young ones ran about wildly. The older ones drifted away. Let’s just say that I was not asked to fill in for the nature teacher again.

Thinking back, the lesson is obvious. They couldn’t hug a tree. It was ridiculous. They didn’t even know the tree; it was a meaningless stranger to them. Besides, people don’t just hug trees because someone tells them to. It was absurd to tell someone to demonstrate love for something they didn’t even know. For goodness sake, even I didn’t go around hugging trees.

I’d lost their attention and come across as a wacky environmentalist, a literal treehugger. It would have been wiser to find a trailhead at the edge of the woods and invite them to follow its lead, not mine.

Ten years later, I taught an after-school science program for girls in Selleck’s and Dunlap Woods. I began the weekly series carrying loads of games and activities to occupy the attention of twelve girls on the trail. The first thing I noticed about the group was how differently they behaved than the Boy Scout troops I was used to leading through these same paths. The girls did not scatter to the four winds, leaping from log to rock, grabbing sticks and bashing them against tree trunks as if suddenly becoming vigorously alive the moment they stepped under the canopy.

The girls were content to follow me and participate in the games, activities and songs I’d planned along the way. I felt relieved. There was no chance of losing one of these kids in the woods. No need to call them back at the top of my lungs. Every time I turned, there they were, all in a row, keeping pace and looking expectantly at me.
As the weeks passed I became increasingly dissatisfied. We had done chemical tests of the water. We had dug into the layers of the soil. Still, the experience was somewhat lacking. I began to question why I was planning and orchestrating every moment of the experience. Was it for the parents who were paying for this program so their kids would do some science? Was it for my own comfort? Was I afraid my beloved park would fail me; that the kids would be bored if left to their own devices?

I stopped bringing so many prepared activities, lightening my load each week, until on the last few classes I brought nothing but my supervision and my ability to interpret the landscape. The girls began to orbit me rather than follow. They were no harder to watch, not a one ever disappeared from sight, but their eyes opened and turned away from my back to focus on the forest surrounding us.

They perked up when they found that they could leave the path without correction. Then their own discoveries began. I could hardly keep up. They found
mushrooms and examined their gills. On one early-dark November eve, they heard a screech owl whinny, located it in the shadows, and watched it as it flew silently from branch to branch. They lay on mossy boulders and brushed spore capsules, watching the brown dust sift out into the air. One week I brought nets; the kids scooped muck from the edge of the pond and found dragonfly nymphs, scuds, snails, and tadpoles. They didn’t count them. They didn’t graph them. They didn’t even draw them. They were doing what I did when I was a young child, settling in, getting comfortable with nature. For many of them this was their first time on the trail. Connection was the first order of business. It took this group a long time to get connected with the woods; you see, I was in their way.

Parents (and teachers) do not need to orchestrate their children’s experience of nature. You can’t make them love the trees, the flowers, the dragonflies. They
have to come to it themselves. Find an interesting spot, plop yourself down, and let your kids radiate like spokes of a wheel. Don’t get anxious that you’re not “teaching” them anything; remember that a single personal discovery will be much more memorable than several scripted lessons.

A final lesson came on the trails of one of our favorite state parks. We were traveling a hidden footpath along the edge of a swamp. It is a rare occasion when we encounter a human along this trail, it being frequented mostly by yellow jackets, turtles, frogs, and kingfishers. Most people stick to the bicycle path about one hundred feet above on the top of the hill.

On one occasion, my husband, son, and I encountered a well-dressed man sitting on the mossy bank, his back against a tree. We greeted him, and it turned out that he was there with his thirteen-year-old son. The boy himself was nowhere to be seen, but the father knew precisely where he was—about fifty yards away on the other side of the swamp, scrambling along a peninsula covered by bramble and thicket.

The father told us that his son loved catching frogs and found the best hunting in the undisturbed areas. For a few minutes as my family and I continued down the trail together, I wondered why the man didn’t go with his son into the swamp. It took me a while to puzzle his choice out, something I now attribute to the fact that I was the mother of a three year old who required constant supervision. His thirteen year old, in contrast, was perfectly capable of negotiating the swamp unassisted.

This boy’s father was giving him freedom, a precious commodity in today’s version of childhood. He roamed the swamp, out of sight, but confident in the knowledge that his father would be there should there be any trouble. He also knew that until it was time to
go home, his father wouldn’t interfere with his adventure. He could make his way through brushy tangles, skirt uncertain ground, and stalk the leopard, bull, and pickerel frogs unaided, dependent only on the agile swiftness of his own arms.
Moving at a snail’s pace is an incredibly effective nature study strategy. It is additionally appealing because it requires little preparation by the parent. Adopt the slow pace of a naturalist, and you will no longer pass by cocoons, spore capsules, or owl pellets. Your children will feel unpressured as they stalk frogs in the swamp. A miniature world will be open to your inspection, and you will find a new level of enjoyment in the practice.

Little lessons can be found along every trail if you attend to the details. What is under that leaf? Who hides in the crevices of the mossy bark? What grows in the shady nooks? These are questions that remain unanswered if you don’t take the time to stop and look.

Giving your family the gift of unhurried time on the trail will invigorate your nature study. It will become a truly child-directed experience. Your children will understand that they have time to thoroughly investigate the elements of the landscape that catch their eye. They will get more out of each walk, even as their walks become slower and shorter.

You may also find nature study easier and more enjoyable when done at a snail’s pace. Without the pressure of delivering scripted lessons, you will have time to make your own discoveries. An appreciation of nature is not something you can pass on to your children if you do not have time to practice it yourself.

So enjoy life in the slow lane. You’ll find there is no shame in moseying along or even coming to a full stop in the middle of the trail, and you’ll be amazed to find that every nook and cranny of the natural world is bursting with life.