



Nature Play at Home

**A Guide for Boosting Your Children's
Healthy Development and Creativity**

Written by Sarah Konradi, Julie Murphy, Robin Moore & Nilda Cosco



**BUTTERFLY
HEROES™**

NC STATE Design



NATURAL LEARNING INITIATIVE

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**A Guide for Boosting Your Children's Healthy
Development and Creativity**

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Disclaimer:

The purpose of the Nature Play at Home guidebook is to raise awareness and provide education about considerations for Nature Play Spaces™; it is not to be considered as an all-inclusive resource. Safety requires common sense specific to the play space involved, age and children skills. While the intent is to provide a general resource for reconnecting children and families to nature, the authors and program sponsor disclaim any liability based upon information contained in this publication. The Natural Learning Initiative (NLI) assumes no responsibility for the design or installation of outdoor components for playing and learning. In no event will NLI be liable for any loss or damage including without limitation, indirect or consequential loss or damage incurred during the construction or use of the outdoor learning environment at home or other location. Site owners are responsible to inspect, repair, and maintain all elements and manage site-specific supervision sightlines, landscaping, and safety requirements. The Natural Learning Initiative, the National Wildlife Federation, and its divisions provide these comments as a public service in the interest of integrating nature into the home environment while advising of the restricted context in which it is given.

Nature Play at Home is a joint project of the National Wildlife Federation and the Natural Learning Initiative, dedicated to creating tools and resources that restore nature to children's everyday outdoor play and learning environments.

The National Wildlife Federation (NWF) is America's largest conservation organization, uniting all Americans to ensure wildlife thrive in a rapidly changing world.

The National Wildlife Federation focuses its conservation and education work in the following areas:

- Connecting 10 million children to nature for a nation of happier, healthier kids. Facilitated connections by affirming adults in early life teaches children to appreciate and respect the natural world so they can be good conservation stewards in the future.
- Protecting and restoring wildlife habitat where people live, learn, work, play and worship through sustainable gardening and property stewardship- especially habitats that provide a home for threatened and endangered species.

Kids today spend twice as much time indoors as their parents did, missing out on the simple pleasures and lasting mental and physical health benefits of daily outdoor time.

The Natural Learning Initiative (NLI) is a design assistance and engagement program of the College of Design, NC State University.

Creating environments for healthy human development and a healthy biosphere for generations to come. This NLI mission is accomplished through design assistance, research, education (including online programs), and dissemination of information, to promote the critical role of the natural environment in the daily experience of all children and their families. NLI works with multidisciplinary partners to implement high quality natural spaces that support healthy child development, pro-social values, and motivation of learning across all subject areas.

NWF's Kids Garden for Wildlife and Butterfly Heroes programs offer children simple ways to engage in nature right outside their door. Practical tools and examples connect children to their "habitat" and those they share with butterflies, bees, birds and other wildlife. This creates a sense of place to make being outside a fun, healthy and automatic part of everyday life for American families, nwf.org/kidsgardenforwildlife.

Butterfly Heroes empowers children and families to play a direct role in addressing declining population of the monarch butterfly by increasing their time outdoors planting and tending a garden habitat and observing the monarchs and other pollinators who visit it. The Disney Conservation Fund supports the National Wildlife Federation's Butterfly Heroes program as a part of its initiative to Increase the Time kids and families spend in nature, leading to happier, healthier kids who care about the planet.

NLI believes that understanding nature's processes and their interdependence with human life is a required educational task for creating an ecologically sustainable society. NLI collaborates with other researchers, designers, educators, environmental educators, planners, extension agents, public officials and all professionals working for and with children to help communities create stimulating healthy places for play, learning, and environmental education.

NLI works with a variety of sectors including schools, child care institutions, after school programs, park and recreation systems; childcare center systems; afterschool programs; federal, state, county, and municipal governments; residential developers; botanical gardens; museums; environmental centers, and zoos.

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Preface

In the midst of busy school schedules, sports, and other extra-curricular activities, it is often hard to fit in a trek to a park or natural area. Not to mention the lure of technology and other factors that all too often trump outdoor play as a part of children's everyday routine. The new trend towards indoor childhoods is contributing to dramatically increased childhood obesity rates, vitamin D deficiency, and a generation of tuned-out, stressed-out kids.



Children exploring this wooded space search for a glimpse of wildlife.

The problem is not going unnoticed by the American public. A survey by The Nature Conservancy indicated that 50 percent of adults think “kids not spending enough time outdoors in nature is an extremely or very serious problem.” Another 30 percent feel it is a “somewhat serious problem.”

The good news is that beneficial outdoor time for your kids is as close as your own backyard, patio or balcony! Creating natural play opportunities can be part of the solution to increasing the amount of time kids spend in the great outdoors for the health of their minds, bodies, and spirits.

This guide shows easy, affordable ways to turn your backyard or other types of neighborhood outdoor spaces into vibrant Nature Play Spaces™ for children so they can reap the physical and mental benefits of playing outside. Best of all, these ideas provide hours of fun for kids so instead of begging for 15 more minutes on the computer they will welcome invitations to “go outside and play!”

Use the how-to steps contained in this guide to create a vibrant, fun-filled Nature Play Space™ where children learn by:

- Gathering natural materials like sticks, leaves, and grasses to use in imaginative ‘loose parts’ play;
- Collecting branches, sticks, and string to make an area for building forts, nests, and all types of shelters;
- Using a hollow log, planter or corner of the yard to make a miniature scale fairy village;

- Planting (or potting) fragrant, colorful, and textured plants like rosemary, lavender, and thyme to make a sensory garden;
- Observing wildlife including birds, squirrels, and fascinating ants;
- Constructing a raised-bed “first” vegetable garden to understand that food comes from only one place, the Earth;
- Providing food, water, cover and places to raise young, for wildlife to make your yard a Certified Wildlife Habitat and a place to appreciate and understand birds, butterflies, and other creatures;
- Setting up small stumps of various heights that children can step across for learning balancing skills;
- Creating a play deck that encourages dramatic play and becomes an outdoor stage for skits presented to parents. Natural elements found in the yard can be used as props.

Every home can become a Nature Play Space™ for children, whether it is a wooded rural lot, a suburban lawn, or an urban patio or balcony. It doesn't have to be done all at once, begin with one or two elements and build on it over time. If one idea doesn't work in your space, try another. The beauty of Nature Play Spaces™ is they are flexible enough to meet everyone's needs.

Bring nature back to childhood by making your home a Nature Play Space™ and welcoming nature play at home!



◀ As children climb, balance, and jump, they strengthen and develop major muscle groups.



◀ Children learn about the environment by interacting with it on their own terms.



Introduction

Developmental Benefits of Nature Play

All parents search for ways to support their child’s healthy development. Playing in nature is an important part of the mix. Developmentally, the primary value of outdoor, nature spaces is how they support children’s unstructured, spontaneous play. Children’s lifestyle research indicates a trend towards more home-centered activity, with decreased opportunities for children to participate in unrestricted free play, and less time outdoors. Contrariwise, research shows that being outdoors in nature offers multiple benefits to children, including:

- Children will be smarter, healthier, happier, and better able to get along with others when they have regular opportunities for free and unstructured time outdoors.
- Play in nature helps children focus attention, can reduce ADHD symptoms, may strengthen the immune system and reduce the risk of myopia (short-sightedness).

- Studies of children in schoolyards found that children engage in more creative play in green areas and play more cooperatively.
- Positive, direct experience in the out-of-doors with a trusted adult—parent, grandparent, or guardian—are the two factors that most contribute to individuals choosing to take action to benefit the environment as adults.

This is a brief selection of the many benefits of childhood exposure to nature. For more information, refer to the Children & Nature Network (C&NN) website Research & Resources. See link in Resources at the end of this guide.

“Children have a natural affinity towards nature. Dirt, water, plants and small animals attract and hold children’s attention for hours, days, even a lifetime.”

— ROBIN MOORE AND HERB WONG

Play in nature has a different impact at each stage of development. As children grow and develop, they need to confront new challenges at the edge of their known world that will constantly exercise newfound skills. This means a truly “developmentally appropriate” environment must be designed to offer a diversity of settings and uses to engage the developing child on a daily basis, constantly supporting the growth of new skills, awareness, and knowledge at each developmental level.

Think of it this way:

FOR INFANTS

A comfortable place for parents and young children to be out in nature together. Gardens with colors, textures, sounds, and smells to stimulate the senses.

FOR TODDLERS

Spaces for beginning steps of independent exploration. Encouraging exploring and walking in nature using balance logs. Exploring sensory and wildlife gardens. Starting hands-on fruit and vegetable gardening. Using lawns for active play. Playing with loose-parts to develop creativity and imagination. Moving objects from place to place. Providing natural places to stimulate observing, discovery, and naming—to start a “natural object vocabulary.”

FOR PRESCHOOLERS

Places to stimulate curiosity. Turning over logs and rocks to make discoveries. Sorting them to support cognitive skill and science learning—along with gross motor and fine motor development. Engaging in natural construction involving digging, measuring, and experimenting with materials. Activating social skills through dramatic play. Pursuing habitat and wildlife exploration and observation. Benefiting from fitness opportunities for running, jumping, climbing, hopping, skipping, dancing.

FOR SCHOOL-AGE KIDS

Spaces to deepen understanding of plants, animals, and human interactions. Observing changes and effects of weather and seasons and how they relate to changes in living systems. Engaging in serious gross motor skill-building by climbing trees, ropes and ladders. Balancing on stones, stumps, and narrow edges. Organizing games with rules in complex spaces (hide-and-seek) and in



▲ Children observe and learn about the natural environment around them as they play.

open areas. Designing and building dens for kids and animals. Places to enter the timeless, poetic reverie of middle childhood, away from adults.

Let’s not forget children with special needs, including peers, who have as much right to connect with nature as other children. Offer appropriate choices for all children to enjoy nature year-round.

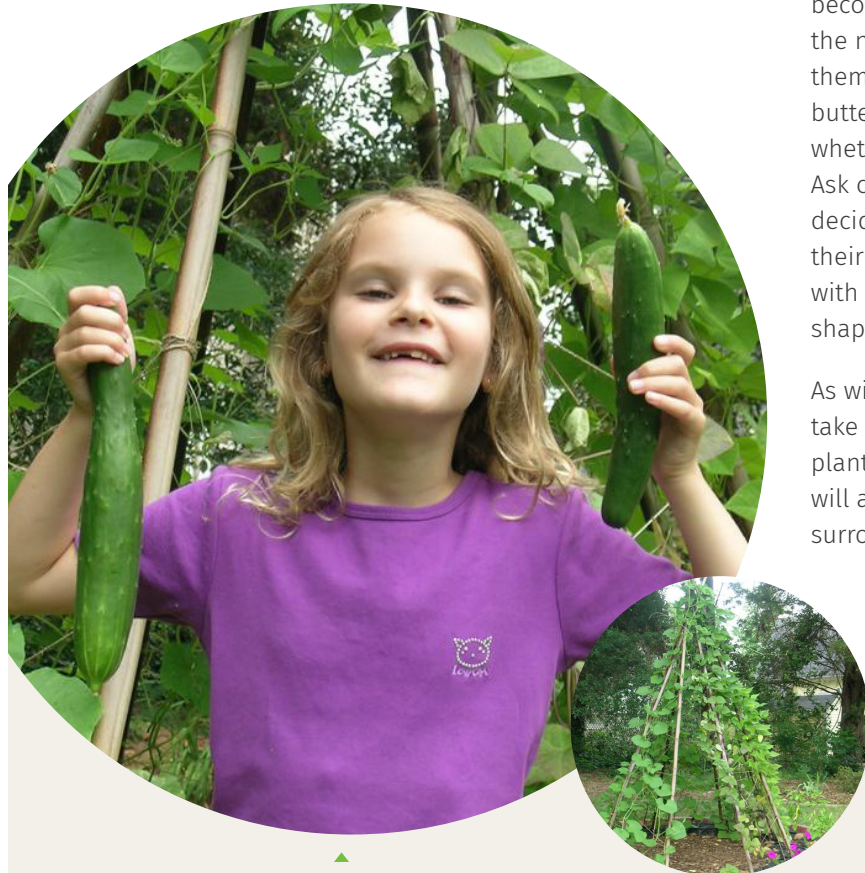
Multisensory learning that can never be gained exclusively in front of a TV or computer. For that reason, environmental apps are beginning to appear to accompany older kids outdoors, recognizing that they won’t let go of their digital devices. This trend may extend children’s direct experience of nature, prompting them to ask deeper, more meaningful questions that can be fully investigated later in the digital world—before returning to nature armed with newly acquired concepts.

Nature-filled yards, as well as balconies and patios, combined with unstructured nature play, serve to nurture a love of the natural world. Research tells us that when children learn early in life about the beauty of nature, they are more likely to retain those values as adults and become active stewards of the environment.

Getting Started

The first step to naturalizing your yard, balcony or patio, is to take inventory of what you already have. A stack of unused pots can be turned into a colorful, edible container garden. Large shrubs can be pruned to provide a child-size hiding space. A low, wet spot may provide a place where children would love to dig and explore... all they need is permission.

Assessing what already exists and starting small can help ensure success in the years to come. Incorporating nature play elements into your home landscape is all about planning and making incremental changes over time to match your children's growth. The most important goal is to create outdoor spaces where children and families can enjoy being together.



Nothing beats children's sense of accomplishment from growing fruits and vegetables themselves.

Involving the Whole Family

Involving children from the start generates enthusiasm for the whole process, and encourages them to feel comfortable making suggestions about how they want to use the outdoors, and what natural elements excite them the most. Getting children engaged in both the annual cycle of seasonal changes in the landscape, and the year-to-year changes that come as plants mature and the landscape 'fills in,' is a learning experience that will stay alive throughout life.

Managing Nature Play

While major annual physical management tasks (e.g. pruning) will require parental or professional involvement, children can still "help" with daily or weekly care and maintenance routines that can be fun, rewarding activities.

Don't think of weeding as a chore. Encourage children to become "plant detectives." Support their curiosity about the new plants that pop up in the landscape. Challenge them to observe if these new plants attract bees or butterflies. Investigate online resources to identify whether the new arrivals are weeds or beneficial plants. Ask children to count how many types they can find and decide if they should be kept or removed. By managing their own outdoor space, children gain ownership. Along with other family members, they will become confident shapers of space to fit their needs.

As with any natural environment, Nature Play Spaces™ take time to evolve; nonetheless, from the first tomato plant planted and the first bird feeder hung, children will acquire a special sense of meaning about their surrounding environment

◀ Vine teepees are a great first step in a Nature Play Space™. They are playful, simple, compact, and can support vegetables.

Risk Taking – Supports Healthy Development

"Nothing ventured, nothing gained" is a well-worn proverb. Nowhere is this more relevant today than children's daily life, which can become over-protected and overly structured. Leaving children space and time to engage in creative free, nature play in the domestic outdoors is a great way to for kids to de-stress and boost their immune system. Play in nature outdoors until recently was the traditional learning process of childhood. Outdoors was where children learned how to get along with each other, how to read the processes of nature, how to harvest natural resources and apply them to creative problem solving, and how to learn the capabilities of their bodies in "psychomotor" interactions with their surroundings.

Children have always learned through direct experience, by doing, by collaborating with others to survive. That's why they are here today, because previous generations took risks and learned the lessons that nature teaches. Today's parents can continue the tradition of "natural adventure" by stimulating curiosity, encouraging exploration, and responding to questions but at the same time taking care not to disrupt sequences of intense, playful discovery.

The benefits of risk taking are essential for children to build problem solving skills and become competent to face life's challenges. To learn, they must constantly push the limits of their own experience at their own pace in genetically programmed developmental stages towards maturity. However, risk must be balanced with safety. Particularly in the early years, supervision is essential to ensure that activities do not move beyond healthy risk-taking. During the "play season physical environments should be monitored regularly each week to ensure they are hazard free.



▲ Risk taking varies with age and can be as simple as climbing, balancing, and jumping from a new height.

Nature Play and Learning Settings

Using the Guide – Implementing Change Step by Step

1. Browse the list of settings.

Look through the illustrative photos and read the descriptions. The settings are arranged in order of effort and difficulty required to implement them. Some very simple settings may be implemented in a day, some may require a weekend, some longer still.

2. Decide which settings are a good fit for your family and space.

As you browse the guide, highlight the settings that strike you as most valuable, and prioritize which ones to begin with for your family and your space.

3. Create a plan for setting locations in your space and the order of implementation.

Create a plan to locate the settings in your space—this does not need to be an architectural drawing, it can be as simple as a list of settings and approximate locations for installation. The point is to think through the most critical aspects for each installation such as sun exposure, shade, drainage, ease of access, play value, and year-round use.

4. Research any further resources and inspiration needed to finalize details of the settings you have chosen.

Use the guide as a starting point—a spark to inspire the creation of your family’s unique Nature Play Space™. In this age of connectivity the guide is not designed to stand alone, but to be a part of a broader network of home-scale nature play resources available online. Make the most of resources online at www.naturalearning.org and www.nwf/kidsgardenforwildlife as well as those listed at the end of this guide.

5. Get to it! Implement settings step by step, adjusting as you go.

Once you have set up a plan for where the settings will go and how you will implement them, it’s time to make it all happen and bring nature play to your home, one step at a time. As you implement settings, make adjustments and see what works and does not work for your space and your family. Perhaps you will need more shade for the sand play, a different kind of vine to grow on the teepee, or more space for balance logs. Keep in mind the goal is a dynamic, evolving Nature Play Space™ that changes with the weather, the seasons, and the growth of your children, a space that grows with the family.

Required Effort Scale



ONE SHOVEL:
Straightforward, minimal effort.



TWO SHOVELS:
Fairly simple to implement.



THREE SHOVELS:
Moderate effort and planning.



FOUR SHOVELS:
Moderate/high level of effort.



FIVE SHOVELS:
Highest degree of effort and substantial planning.

The settings listed in this guide are arranged in order of difficulty and effort required to implement them, indicated by the number of shovels (1 to 5) in the upper right corner of each setting page.

Many settings have a range of difficulty based on the form and implementation of chosen components. For example, the Edible Plants setting ranges from two to four shovels because planting herbs in a pot by a front door is fairly simple. In contrast, the planning and work required to build a set of raised garden beds with timber construction to grow a full crop of vegetables and fruit is far more involved.

The order of difficulty is only a guide. The actual time, effort, and difficulty involved in each particular project will vary according to the project size and skills of the person implementing the project.



▲ Children love to help with projects around the yard, and in the process they build independence and responsibility.

Loose Parts (Natural and Not)



▲ Natural loose parts can become almost anything a child imagines, here a worm home.

Loose parts (natural and not natural) include almost any found object or play material that increases play and learning. To start, gather some of nature's loose parts already in your yard.

Children's creativity is driven by anything that can be manipulated, changed, or moved around. Rather than purchasing toys for your children to play with outdoors, consider recycling and reusing everyday objects and taking stock of what nature provides for free!

MATERIALS

- Twigs and bark
- Pinecones
- Stones
- Leaves
- Seeds and flowers
- Bamboo poles
- Tree cookies
- Sawn logs
- Reused everyday objects

1. **Gather and prepare loose parts; ask your kids to help.**
2. **Check over thoroughly for splinters, sharp edges, or potentially unsafe conditions.**
3. **Let them play!**

Natural Construction



▲ Natural construction can be small, like this "fairy house."



▲ A permanent "armature" of connected poles with logs, ready for additions.

Natural construction offers children natural and manufactured materials such as logs, branches, rope, and bamboo for building forts or other "creations" large and small. These materials can provide hours of engrossing activity for long play sequences, day after day. Imagination is the only limit to the many variations of forts, cubbies, clubhouses, hideouts, and dens.

MATERIALS

- Branches
- Bamboo
- Straw bales
- Pieces of burlap
- Cardboard boxes
- Rope and twine
- Tarps or outdoor fabric
- Leaves & pine needles
- Logs or stumps
- And more!

1. **Choose an area that includes trees, logs, fences, walls, or posts to provide a structure for children to build against or create a permanent armature to support children's ever-changing, imaginative constructions.**
2. **Select natural and manufactured building materials carefully to allow for safe, fun building (no sharp, splintered edges).**
3. **Gather a mix of materials in the natural construction area for the children to use.**

Water Play



Buckets and squirt toys add to the fun.

Water play is highly interactive, multisensory, and universally loved.

Although there are many variations, the most versatile and fun water play setting is a garden hose and a well-drained, thick turf lawn. Alternately, troughs, channels, and water play tables engage children by offering them play opportunities using floating objects and building dams.

Easier yet, make the most of the next rain shower! In a matter of minutes, ordinary yards will transform into a wonderland of streams, rivers, lakes, dams, oceans, and waterfalls. Of course, dress appropriately and be sure there's no sign of thunder.



▲ Water play and watering the garden go hand in hand. Ground cover is non-slip, well-drained mulch.

MATERIALS

- Garden hose
- Sprinklers
- Squirt toys
- Sponges
- Water table
- Buckets & kiddie pools
- Misters
- Bubbles
- Rain showers

1. **Locate water play almost anywhere—just be sure the area is well drained and that ground surfaces don't get too slippery.**
2. **Add water!**

Earth and Mud Play



Looking for creatures in garden soil.

Earth and mud play are an integral part of healthy childhood. Becoming familiar with the surface of the planet we live on by scooping, scratching, smoothing, piling, digging, and discovering the properties of earth itself, are fascinating activities for children of all ages.

Earth and mud play vary widely depending on you and your child's preferences and what your space allows. If limited to a small patio or deck, try filling a large tub or bucket with soil and adding a few scooping/digging

MATERIALS

- Earth
- Soil
- Dirt
- Mud
- Water
- Digging toys
- Old pots & pans
- Dumper trucks
- Buckets & shovels
- Stones/logs for sitting



◀ Full body mud play is a stimulating, sensory experience not to be missed.



◀ The feel of the earth on bare hands.

implements. In a larger space, designate a digging or earth play area by surrounding it with logs or stones (great for sitting on). Toddlers require only a few square feet to dig.

For more information about the benefits of playing in dirt and more ideas, see the NWF's publication "The Dirt on Dirt" (refer to the resources section at the end of this guide).

1. **Designate a place for earth or mud play.**
2. **Provide earth, water, and other materials you may have on hand.**
3. **Let the kids play!**

Acoustic Play



Acoustic play works well with reused kitchen pans and a ready supply of “drumsticks”.



▲ Combining settings adds value in small spaces. Here, acoustic play in a teepee.

Acoustic play (dare we call it “music”?) is a popular outdoor sensory activity. Children enjoy producing sounds, testing the environment’s responsiveness, and comparing the results with different materials. For children with disabilities, acoustic play may be highly stimulating.

An acoustic play setting could be as small as a set of chimes in a tree or as large as an elaborate stand with outdoor drums, tambourines, bells, and whistles. Kitchen utensils commonly used in acoustic play settings can be found inexpensively at local second-hand stores. If one day you decide your own kitchen needs upgrading, utensils can take on a new playful purpose.

MATERIALS

- Pots, pans, lids, spoons
- Chimes
- Bottles filled with dry beans
- Bells
- “Drumsticks”
- PVC pipes cut to different lengths
- Buckets
- Outdoor instruments

1. **Gather & create sound-making objects.**
2. **Find and/or build a structure to attach the sound-makers (such as a fence, a post or from a tree).**
3. **Secure sound-makers with outdoor-quality cord. Make sure they hang freely for clean sounds.**
4. **Provide sticks, spoons, “drumsticks,” etc.**
5. **Remember to ask if the neighbors are music lovers!**

Fairy Villages



▲ Raised planters are perfectly suited for creating enchanted villages of all types.



◀ Twigs, nuts, and berries just waiting for imaginations to animate them.

Fairy villages are homes for elves, fairies, and other beings of children’s imagination and are a special form of natural building. They provide enchanted places that stimulate creative, dramatic play in make-believe settings.

Fairy villages can be any scale, created inside a hollow log, on top of a tree stump, in a planter, on a patio or in a miniature woodland in a quiet corner of the backyard. Incorporate native pollinator friendly plants to attract butterflies to your fairy village.

MATERIALS

- Hollow logs
- Mushroom sculptures
- Leaves
- Sticks
- Acorns
- Ferns
- Bark
- Flowers
- Moss
- Miniature accessories

1. **Find (or create) an enchanted place for your fairy village.**
2. **Provide small, natural loose parts that contribute to the construction of a miniature fantasy world where fairies, gnomes, elves or dragons might reside.**
3. **Leave notes and see if they respond.**
4. **Link to your children’s favorite fairy stories.**
5. **Keep an eye out for goblins!**

Wildlife Gardens



Bird watching from a balcony.



Inspecting the day's catch – a worm.



Planting native species encourages birds, butterflies, and other "pollinators" to frequent your garden.

Wildlife gardens are spaces children can help create to support animals. By providing food, water, cover and places of to raise young, your garden will be filled with song, color and movement, as local wildlife such as birds, insects, lizards, toads, frogs, turtles, butterflies, fireflies, worms, and much more will call the garden home. A wildlife habitat garden filled with native plants will offer amazing observation opportunities and advanced concepts such as cause and effect as children

see a direct impact of their planting and tending efforts. The Butterfly Heroes program offers a "starter kit" to let children begin creating their own habitat to help monarchs and pollinators.

For more information, see the National Wildlife Federation's *Garden for Wildlife* (www.nwf.org/garden), and learn how your backyard can become an official *Certified Wildlife Habitat* (refer to the resources section at the end of this guide for links).

MATERIALS

- Native plants for cover, food, and nesting materials
- Birdhouses
- Bird feeders
- Birdbaths
- Shallow water dishes for lizards and frogs
- Old stumps, brush, and stones

1. **Install native plants to provide food and cover for wildlife.**
2. **Supply a water source: birdbath, shallow dish, pond or rain garden.**
3. **Plant densely to provide cover and nesting places for wildlife.**
4. **Enjoy observing wildlife in your backyard habitat.**

Sensory Garden



This sensory garden incorporates fragrant herbs between stepping stones, surrounded by plants of various colors and textures.

Sensory gardens contain fragrant, colorful, and textural plants designed to stimulate the senses and thereby help brain development. Herbs (basil, lavender, dill), native ground covers, flowering perennials, ornamental grasses, and colorful shrubs complement one another and provide many scents, textures and colors. Chimes, colorful mobiles, mosaics, and other garden art can add richness to your sensory garden.

Sensory plants combined in a large planter or pot work well in a small space. In a larger yard install sensory plants between stepping stones or around seating for a fuller sensory experience.

Sensory gardens complement backyard habitats by offering a lush variety of plants for wildlife. Use native plants and let herbs go to flower to maximize benefits to pollinators and other wildlife. Plants stimulate the senses and offer low-key learning through observation in a restful, relaxing space.

MATERIALS

- Sensory plants
- Pots or planters
- Stepping stones
- Textural artwork
- Seating such as benches, swings or hammocks

1. **Find a sunny place for your sensory garden to thrive.**
2. **Gather a variety of sensory plants to install.**
3. **Explore the sensory garden with your children by seeing, hearing, touching, tasting, and smelling.**

Grass Maze

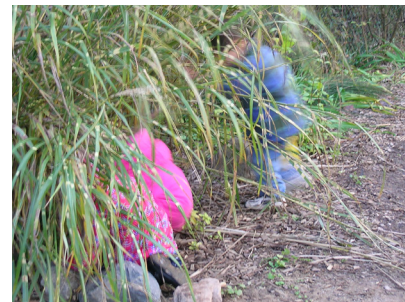


Grass mazes contain tall, hardy grasses spaced far enough apart to create the feeling of a maze, enveloping children and stimulating movement through a circuit that triggers curiosity and invites exploration of ever-changing pathways. Using grasses native to your area is a great way to provide food, cover, and places to raise young for wildlife.

If there is not enough room for a full-sized grass maze in your yard

(ideally at least 100 square feet), planting a small grouping of 3-4 grasses still works well, even in pots, for young children to explore.

For more information, see the NLI website *Green Desk post on Grass Mazes* (refer to the resources section at the end of this guide), including a list of recommended grass species and spacing recommendations. Select grasses that are soft, checking to make sure the edges of the grass blades are not too sharp.



▲ Children use grass mazes in all kinds of ways: for chase games, hide and seek, imaginative play and as natural loose parts to harvest.

MATERIALS

- Ornamental grasses
- A sunny place to plant them

1. **Decide on a location for your grass maze: somewhere sunny and ideally at least 100 square feet.**
2. **Select soft, hardy, native grasses.**
3. **Plant grasses and enjoy exploring and observing wildlife!**

Fruit and Vegetable Gardening



Children love to help tend and plant.



◀ Harvesting and tasting peas.



◀ Large or small, edible gardens create a sense of wonder in children that can't be matched.

Fruit and vegetable gardening brings the wonder of seed to table experiences regardless of the size of your outdoor space. On a small patio or deck, use containers to grow edible fruits, vegetables, and herbs for the whole family to enjoy. With a larger space, try special garden beds and encourage children to grow and tend for themselves. Use fruiting trees or shrubs in place of traditional ornamental plants to maximize space.

Help children understand how wildlife helps us grow the food we need. One out of three bites of food on our plates is the result of pollination services of animals

such as, bees, that allows plants to produce fruits, nuts and seeds. Native plants will attract more pollinators to your food garden.

Remember, kids enjoy helping. Planting, weeding, watering, and harvesting are gardening tasks that provide hands-on play and learning opportunities. Cooking and eating together outdoors or indoors are the final, delicious steps. Remember, picky eaters are more likely to try veggies they helped grow.

See the resources section at the end of this guide for more information.

MATERIALS

- A sunny spot (most vegetables and fruits need at least 6 hours of sunlight each day)
- Quality garden soil
- Seeds, seedlings, or plants
- A water source

1. **Decide with your kids what kinds of fruits and vegetables to grow.**
2. **Find a sunny patch, and amend the soil as needed.**
3. **Plant, water, tend, cook, eat and enjoy the fruits of your labor.**

Adventure Pathways



Moveable tree cookies stimulate children to create their own adventure pathways.

Adventure pathways create opportunities for repeated exploration and adventure, even in relatively small yards. Pathways can be simple: a footpath around the edge of the site sneaking behind trees and bushy plants. Complexity can be added with logs, stumps, rocks, stepping stones, and other obstacles to balance, jump or clamber around. A looped pathway is more enticing, it leads a child to a secret place.

In larger sites, additional settings along the path increase the sense of adventure and mystery. Gathering places, grass mazes or fairy villages work well.

Add wildlife observation points along the pathway. Are butterflies using the fairy village? Are there birds at the bird bath? What kinds of wildlife can you spot in your grass maze?



▲ Pathways add adventure in wooded yards.

MATERIALS

- Pathway surfacing, including mulch, or stepping stones
- Destinations and diverse materials, such as balance logs or boulders

1. **Layout pathway in a loop.**
2. **Create play opportunities “along the way.”**
3. **Add diverse ground surfaces and plants to increase interest.**

Multipurpose Lawn



Multipurpose lawns might be easy to overlook because of their ubiquitous presence in yards across the country. However, it is important to remember the benefits of a thick, healthy turf area selected to thrive in your growing region and shade conditions. Small multipurpose lawns have many uses including group games, dramatic play, story time or as a soft place to lay immersed in the perfume of the grass while watching clouds drift across the sky.

Lawns need not be expansive to provide a great play space for children. Even a small 100 square foot circle or square can provide many play

opportunities. Lawns work well as a central space bordered by other settings, a pathway, diverse native plantings, and trees. Consider the lawn as a small piece of home landscape designed for nature and play, rather than as a complete yard on its own. Areas of lawn that include only one type of plant, such as turf grass, offer little habitat value for wildlife. However, added patches of low growing native grasses can provide wildlife with food, cover, and places to raise their young. Moss phlox and creeping thyme provide fragrant ground cover alternatives to small patches of turf grass.



▲ Colorful planted buffers give a sense of enclosure to lawns. They do not need to be large to leave plenty of room for free-form play.

MATERIALS

- Sunny, relatively flat patch of ground
- Soil amendments, such as compost
- Sod (for best results)

1. **Choose a spot that receives at least 5 hours of sunlight a day.**
2. **Prepare the existing soil by loosening the top couple of inches and adding compost or other organic material. Rake smooth and remove large stones.**
3. **Install sod for best results. Water as recommended to establish.**

Balancing Logs



▲ Moveable logs and stumps offer many play opportunities like balancing, as well as building, pulling, and rolling.



▲ Stationary balancing logs invite children to playfully engage in the world around them as they grow and develop.

Balancing logs are as simple as they sound: a single sawn log or grouping of various sizes—providing a natural alternative to manufactured play structures for climbing, scrambling, and balancing activities. Logs can also serve as seating, as support for natural construction, or as an insect habitat (carefully roll them and look underneath). In smaller yards or patios thin slices of logs (“tree cookies”), can serve as stepping stones or loose parts.

Hardwoods such as red cedar or oak work well because they last longer. However, most logs need to be replaced every few years.

MATERIALS

- Hardwood stumps or logs such as oak, locust or cedar
- Sizes ranging from small stumps to larger fallen trees
- Smaller, stepping stone size “tree cookies” are an alternative to larger logs

1. **Based on the amount of space, install stumps or logs in the ground and check for stability.**
2. **Check regularly for safety.**

Sand Play



▲ More formal sand play with decking.



▲ Sand play in this yard is nicely bounded with stumps and plants to provide play props.

Sand play exercises fine motor skills as children mold, pat, sift, stir, and dig. Imaginative play abounds, as sand magically becomes ‘cake’ when pressed into an old metal pan or transforms into a mountainous obstacle course for insects and earthworms.

Sand Play can be enclosed with logs or rocks. Use low-silica play sand, which is safe and offers countless play and learning opportunities to children.

MATERIALS

- Horizontal edging (timber, composite lumber, masonry stones or boulders) to contain sand
- 18” of play sand for optimum digging
- Fine mesh cover to keep sand clean when not in use
- Pails, shovels, natural loose parts

1. **Choose a well-drained, preferably shady, area to locate the sand play area.**
2. **Regardless of size, sand play needs to be contained with edging elements (logs, rocks, decking, etc.).**
3. **Provide shovels and pails for digging and building.**
4. **Cover the sand with a breathable mesh when not in use.**

Vine Teepee



Children love to help tend and plant.



Small seating areas provide a perfect hideaway inside teepees.



Fabric decorates this teepee in cooler months before the vines grow over it.

For more detailed instructions, see the NLI Info Sheet "Creating a Vine Teepee"

Vine teepees are structures of six poles, six to eight feet long, made of bamboo, sturdy branches, or painted PVC. The poles are secured at the top and covered with climbing vines. Choose vines native to your area to provide food for butterflies, birds, and other wildlife. Teepees create mysterious, natural, private, child-sized spaces.

MATERIALS

- Bamboo or painted PVC poles
- Zip ties
- Step ladder
- Sitting rocks or logs
- Twine and sticks for cross-pieces
- Vines to plant around the perimeter. Try vines native to your area or edible vines such as squash or beans.

1. Find a location for a circle at least 6 feet in diameter.
2. Gather bamboo or other rod-like materials.
3. Use 4 poles tied together, then add more poles to stabilize.
4. Add cross-pieces of twine and sticks for the vines to climb.
5. Plant climbing vines around the base and train them up the teepee.

Play Deck



A stepping stone pathway leads to a small play deck in the corner of this space with recently installed plants.

Play decks serve multiple activities by providing flat, dry, raised surfaces, which support opportunities for dramatic play (used like a stage), work surfaces for projects, places to sit or lay on a blanket, and much more. Decks are natural gathering places for children and neighborhood friends.

Play decks differ from a regular deck because they are usually free-

standing or built against a fence, not attached to the house. Play decks can be much smaller than an attached deck, such as the octagonal deck illustrated above, and they are low, within six to twelve inches off the ground. Consider using a play deck to cover a drain or catch basin to turn it into a usable space (still allowing access if needed).



Play decks adjacent to multipurpose lawns work well. Contemplative settings such as sensory gardens add value.

MATERIALS

- Lumber
- Hardware
- Table saw
- Concrete mix

1. Decide the best location for your play deck.
2. Determine the size and shape.
3. Consult a professional for construction assistance, if necessary.

Water Features



▲ Children are fascinated by water gardens and the creatures who might live there.

Water features such as bird baths, fountains or small ponds have the unique ability to create a more natural atmosphere in outdoor play and learning spaces. The presence of water attracts a diverse array of wildlife such as dragonflies, salamanders, frogs, toads, and certain types of birds that might not otherwise find your yard. Early morning visits to the pond can be a daily adventure of discovery for little ones, with something new to learn every day.

Sizes of water features can vary to suit individual needs. They fit almost any size of yard or patio. Even a small balcony can include a fountain in a sealed flower pot. A larger yard might have room for a pond of varying depth for growing aquatic plants.

Water gardens of all sizes require more supervision and maintenance than most other settings in this guide. Consider ongoing upkeep and safety concerns when deciding whether or not a water garden can work for you. Pay special attention to toddlers around water features.

Address concerns about attracting mosquitoes by keeping water fresh. Engage children in helping dump and replace water in bird baths. In larger water gardens, add a pump or fountain (mosquitoes prefer stagnant water) and treat with non toxic mosquito dunks or granules.

MATERIALS

- Water
- Aquatic plants
- Container for the water (anything from small lined pot to a larger pond with liner)
- Stones, for edging
- Fish, if desired
- Insect life will magically appear after a few weeks

1. **Decide the size of your water garden.**
2. **Consult books and online resources about how to install and care for a water garden or consult an expert.** <http://www.nwf.org/Garden-For-Wildlife/Water.aspx>
3. **Plan for water garden supervision and maintenance.**
4. **Observe wildlife in and around your water garden.**

Balconies, Patios, Porches and Other Small Spaces

1. Natural Construction

Loose parts can still happen in a small space but may need to be an ephemeral event. An afternoon of fort building on the balcony can be a special recurring play activity. Easy to take down when necessary, sticks, fabric, string, and leaves can be reused and recycled as needed.

2. Natural Loose Parts

One of the easiest settings to incorporate into a small scale space is a collection; a collection of natural, seasonal materials, a play surface, and a place to store them. While great on their own, natural loose parts provide even more imaginative play opportunities in combination with other small-scale manufactured items. Provide bins of different small materials, perfect for sorting, manipulating, and creative play.

3. Water Play

Water play is easily incorporated into any size of space. Kids take delight in almost any form of water play, especially in hot weather. Buckets, plastic storage containers, and small kiddie pools can be combined with cups, bowls, and scoops for stationary water play. Try squirt bottles, sponges, or paint brushes with a bucket of water for kids to “paint” exterior walls.

4. Earth and Mud Play

Earth and mud play need not be limited by the size of your space. A large tub filled with soil and scoops on a porch or balcony is just the right scale for young children to dig in. Add water and a few more containers, and a fantastic mud play setting is available with mixing, pouring, squishing, and more.

Natural construction materials are ready for use in this small corner of the yard.

Natural loose parts play can happen anywhere.

Earth play can be just as engaging on a balcony as in a yard.



Balconies, Patios, Porches and Other Small Spaces

5. Acoustic Play

In its simplest form, acoustic play can be created with any sort of noise and music-making instrument stationed outdoors. Porch rails and walls work well for mounted instruments or noisemakers (like chimes). Portable outdoor noisemakers (drums, pans, whistles) can be stored in a container or under a bench, ready to use when inspiration strikes.

6. Sensory Gardens

Sensory gardens are simple to create even in limited places. Herbs are well suited to growing in pots with less-than-ideal sunlight exposure. Try planting herbs along with textural plants like fine grasses, mosses or lamb's ears. Arrange the pots near a gathering place and at a child's height to enable sensory exploration and enjoyment.

7. Fairy Villages

By nature, Fairy Villages are well suited for smaller spaces. Fairies, gnomes, (even dragons) require more imagination than they do space. A planter with fine-textured plants and fairy house materials can fit nicely on a patio. Even a low bench or stump can become the surface for a fairy landscape with a few small materials and lots of imagination.



◀ Fairy villages can be scaled to fit any outdoor space.



◀ Children love to help with yard projects. here constructing and decorating bird houses for habitat.

8. Wildlife Gardens

Wildlife gardens, while more limited on a balcony or small yard, are still achievable. A simple bird feeder or birdhouse (or butterfly or bat house) can increase wildlife sightings, wherever you live. A small yard can accommodate a bird-bath. With a few potted shrubs or fruit trees a much improved natural space will attract wildlife, adding shared interest for children and adults.

9. Edible Plants

Edible plants need sun, water, and soil. Small spaces may be limited in provision of sun. By using pots or planters soil quality can be controlled and space maximized. Keep an eye on your space throughout the day to find the area that receives the most sun, and place edible plants. Herbs, greens, vegetables, even some dwarf fruit shrubs and trees can thrive in containers and small gardens.

10. Sand Play

Similar to earth and mud play, sand play is easily adapted to containers for play in small spaces. A broad container set on a bench can serve as a portable sand table. A larger container set on the ground could be big enough for little ones to sit inside. Mix in a little water and scoops and it's like a day at the beach, all on your own patio.

11. Vine Teepees

With a little creativity, vine teepees can be adapted to decks, patios and small yards. Even without a patch of earth, teepees can be set up seasonally on the porch or patio with vines planted in containers around the outside. Swaths of fabric create shade and colorful hiding places in the winter or before vines have matured.

▶ Sand play for young children need not be large. Logs and toys add play value by offering opportunities to manipulate the sand.

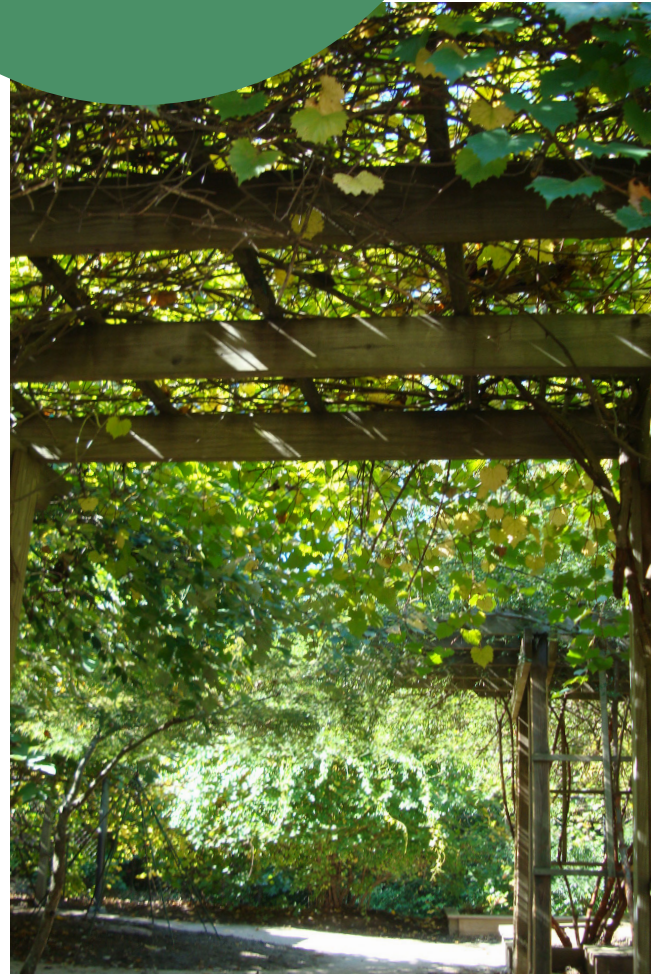
▶ Many edible plants thrive in containers, like these hot peppers.



▶ This vine teepee offers a pleasant shady corner on a deck.



Shade



▲ Grape vines growing above an arbor create beautiful mottled shade.



▲ The shady patch around a small tree can create a magical world for a child and protection from too much sun.

Shade is an essential outdoor component for the comfort and health of young children and other users. Providing shade can extend and enhance time spent outdoors, increasing children's contact with the natural world in a safe, comfortable way. Manage your landscape effectively by considering the amount of shade required for each setting.

“He that plants a tree loves others besides himself.”

— THOMAS FULLER

WAYS TO CREATE SHADE

- Trees
- Pergolas
- Arbors
- Umbrellas
- Shade tents
- Native vines such as trumpet or coral honeysuckle, Virginia creeper or native clematis

Play in All Weather



Winter

Layer up with weather-appropriate clothing. If there's no snow where you live, kids can experiment with freezing water in various containers overnight. Winter is also a time to observe birds at your bird feeder!



Fall

Almost nothing is better than the simple pleasure of jumping in a freshly-raked pile of leaves! Ask your kids which leaves belong to which trees.



Rain, snow, summer heat...

all weather conditions affect getting your kids outside. Rather than staying indoors, find ways to get your family outdoors in all seasons and in all weather. Here are some tips and ideas for all-weather nature play.



Spring

Spring showers are the perfect opportunity for putting on rain coats and galoshes, grabbing an umbrella, and heading outside for puddle-jumping.



Summer

Beating the heat is as simple as hooking up the garden hose and letting kids take aim at each other. Or head into a shady section of the yard for a midsummer mini “hike.” Challenge kids to identify insects, birds, and plants they see along the way.



“There is no bad weather, only bad clothing.”

— SIR RANULPH FIENNES

Spaces for Children and Adults to Enjoy Together

Fast-growing, edible Malabar spinach (*Basella rubra*), is used to cover this tunnel made from curved lengths of aluminum conduit and garden netting.



Green Tunnels

Green tunnels can be created out of curved lengths of aluminum conduit, providing an armature for vines to grow on, making the tunnel a magical place for children to explore. Deciduous vines create a cool, shady summer hideaway. Edible vines, such as cucumbers, beans, and gourds can be trained to cover tunnels.



A secret spot surrounded by plantings is just the right size for quiet imaginative play in nature.

A swing suspended from a pergola.



Hammocks

Hammocks are a great way to provide children with enjoyable vestibular stimulation that swinging provides, but without the space requirements of a traditional swing set.



Groups of hammocks hung between fruit trees and a wooden post provide an inter-generational place for relaxation and quiet enjoyment.

Time outdoors is an important part of staying active and healthy, but nature also offers quiet places for refuge and the opportunities for reflection and relaxation—essential activities in today's fast-paced society. Secret hiding places and 'green' spaces where

children feel enclosed and surrounded by nature provide a sense of confidence. Older children and adults will more likely spend time outdoors if there are comfortable spaces to gather and socialize. Here are some ideas for getting the whole family outside:

Blocks of wood and logs create a simple inter-generational place.



Gathering Places

Gathering places support social interactions and cooperation between generations. As extensions of indoor areas, hammocks, stumps, large rocks, tables and chairs provide settings for story-telling, drawing, painting, sharing conversations about the day or a place for enjoying 'doing nothing.'



Outdoor furniture invites both children and adults to a comfortable spot where everyone can spend more time together.



Small Groupings of Trees and Shrubs

Groups of shrubs create special places for children. Choose plants with interesting leaves, nuts, or berries that will afford even more opportunities for diverse play. Children can assist in creating their own special place by 'weaving' vines or shaping plants to form personalized individual or group spaces.



These mature shrubs have been pruned to provide a space for children to gather. Lengths of airy fabric woven through the limbs create a magical atmosphere.

Closing Thoughts

Every family has the opportunity to invite nature to their daily life, to “pull” children outdoors where they can exercise bodies and minds and gain lifelong habits of health. At the same time, creative nature play helps children learn about the fascinating living systems of planet Earth. Research tells us this is good for building character, reinforcing self-esteem, and learning cooperative skills with others. Edith Cobb’s analysis of biographies of well-known creative individuals in science and the arts found a common thread of genius—unencumbered childhood freedom in nature.

Regardless of the location of your home (urban, suburban, rural) or its size (apartment, condo, detached house), there will always be opportunities for your children to interact with the natural world. It just takes a little creative imagination.

So... open the door, allow your children to breathe fresh air, listen to bird song, be with nature, and carry happy childhood memories into adult life.



Resources

Books about children’s gardens

- *A Child’s Garden: 60 Ideas to Make Any Garden Come Alive for Children*, by Molly Dannenmaier. Archetype Press Books (2008).
- *At Home With Nature: Creating Nature Explore Playscapes for Families* (2012). Dimensions Educational Research Foundation/Arbor Day Foundation (2012).
- *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*, by Douglas W. Tallamy. Timber Press (2009).
- *Creating a Family Garden: Magical Outdoor Spaces for All Ages*, by Bunny Guinness. Abbeville Press (1996).
- *Nature’s Playground: Activities, Crafts, and Games to Encourage Children to Get Outdoors*, by Fiona Danks and Jo Schofield. Chicago Review Press (2007).
- *Sunflower Houses: Inspiration from the Garden – A Book for Children and Their Grown-Ups*, by Sharon Lovejoy. Interweave Press (2001).

Children’s literature

- *Eating the Alphabet*, by Lois Ehlert. Sandpiper (1996).
- *Whose Garden Is It?* by Mary Ann Hoberman. Gulliver Books (2004).

Gardening with kids

- *Early Sprouts*, by Karrie Kalich, Dottie Bauer & Deirdre McPartlin. Redleaf Press (2009).
- *Sowing the Seeds of Wonder – Discovering the garden in early childhood education*, by Life Lab. National Gardening Association (2010).
- *The Budding Gardener*, by Mary B. Rein. Gryphon House (2011).

Gardening

- *Edible Landscaping*, by Rosalind Creasy. Sierra Club Books (2010).
- *Grow Fruit*, by Alan Buckingham. DK Publishing (2016).
- *Grow it Cook it*, edited by Jill Bloomfield. DK Publishing (2008).
- *Grow Vegetables*, by Alan Buckingham. DK Publishing (2016).
- *Perennial Vegetables*, by Eric Toensmeier. Chelsea Green Publishing (2007).
- *The Complete Compost Gardening Guide*, by Barbara Pleasant & Deborah Martin. Storey Publishing (2008).
- *The Vegetable Gardener’s Container Bible*, by Edward Smith. Storey Publishing (2011).

- *Week-by-Week Vegetable Gardener's Handbook*, by Ron Kujawski & Jennifer Kujawski. Storey Publishing (2011).
- *Worms Eat My Garbage: How to Set Up and Maintain a Worm Composting System (2nd.ed.)*, by Mary Appelhof. Flower Press (2016).

Online resources

- National Wildlife Federation – www.nwf.org
 - Garden for Wildlife – www.nwf.org/garden
 - Kids Garden for Wildlife – www.nwf.org/kidsgardenforwildlife
 - Certify your Wildlife Garden – www.nwf.org/certify
- Natural Learning Initiative – www.naturalearning.org
 - Natural Learning Initiative/NC Cooperative Extension, Childcare Center Production Garden Series, including creating a childcare garden, growing and preparing fruits and vegetables in both warm and cool seasons, and composting techniques. – www.naturalearning.org/childcare_production_gardens
 - Green Desk – www.naturalearning.org/greendesk
 - Grass Maze Green Desk post – www.naturalearning.org/content/grass-mazes
 - Vine Teepee Info Sheet – www.naturalearning.org/content/creating-vine-teepee
- Children & Nature Network – www.childrenandnature.org
 - Children & Nature Network research abstracts – www.childrenandnature.org/research

Blogs

- Active Kids Club – www.activekidsclub.com
- Go Explore Nature – www.goexplorenature.com
- Let the Children Play – www.progressiveearlychildhoodeducation.blogspot.com
- Little Eco Footprints – www.littleecofootprints.com
- Love Sown – www.lovesown.com
- Our Days are Just Filled – www.ourdaysarejustfilled.com
- Outside with Marghanita – www.marghanita.com/blog
- Play Outside! – www.theplayfiles.blogspot.com.au
- Playborhood – www.playborhood.com/blog
- The Grass Stain Guru – www.grassstainguru.com
- The Dirt on Dirt – www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2012/04-12-12-The-Dirt-on-Dirt.aspx

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