NATURAL PLAY AREAS

Kids • Health • Nature

THIS INFORMATION PACKET INCLUDES:

One. What are Natural Play Areas?
Two. What do you remember about natural play?
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One - WHAT ARE NATURAL PLAY AREAS?

“If you’ve ever climbed trees, rolled down hills, scrambled up rocks, made mud pies, dammed up water, hidden in grass, played house in bushes, built snow forts, dug in sand, played in dirt, planted seed, jumped in leaves, tracked animals, or had fun outside in other, similar ways, you’ve experienced natural play.”

http://naturalplaygrounds.com

What are natural play areas?

Natural Play Areas respond to recent studies that indicate children are spending less time outdoors and less time visiting parks. In Richard Louv’s book, “Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder,” Louv argues that sensationalist media coverage and paranoid parents have literally "scared children straight out of the woods and fields," while promoting a litigious culture of fear that favors “safe,” regimented, pre-manufactured playgrounds over imaginative play.¹

Interaction with the natural landscape is thought to be crucial to the mental and physical health of children (Rubenstein, 1998). To bring youth back to nature, Natural Play Areas are outdoor spaces designated for play that are made of natural components such as plants, logs, water, sand, mud, boulders, hills and trees. These components represent the larger wild environment in a way that feels safe and manageable to young visitors. A few man-made components might also be carefully integrated to support creative play, encourage confident exploration and help children develop a lasting affinity for the natural world.

The designs of Natural Play Areas might borrow from a range of sites used by children around the world such as Playscapes, Natural Playgrounds, Alternative Playgrounds, Children’s Gardens, Nature Centers, Nature Camps or Adventure Playgrounds. Each Natural Play Area is also meant to be a unique and artful composition of natural components reflecting a local sense of place.

¹ Karnasiewicz, Sarah. “Do today's kids have nature-deficit disorder?” Salon Magazine: June 2005

http://dir.salon.com/story/mwt/feature/2005/06/02/Louv/
EATING!

- “We had some really nice trees in our backyard... Plum, Fig, Apricot, Loquat trees... and a humongous grapevine that was over an archway... I used to love to sit my little table by the grapevines and eat them right off the vine.” (http://askville.amazon.com/favorite-childhood-memory-bears-nature)

FISHING!

- “I loved the lake. I would go out on it in a paddle boat with my brother, and sometimes my family would go fishing and end up catching bass, walleye, and sunfish, which we’d then cook for supper. It was especially fun to explore the lake because its boundaries weren’t so clearly defined...there were certain areas that were almost secretive, and we would always enjoy feeling like adventurers. I remember numerous times when we tried to construct boats out of planks of wood.” (http://askville.amazon.com/favorite-childhood-memory-bears-nature)

SMELLING!

- “The scent of eucalyptus trees blowing in with warm wind through my bedroom window when all was simple and true in my world.” (http://www.blogcatalog.com)

MAKING!

- “Making a tent using an old wooden clothes maiden and blankets, then eating sweets and reading in there.” (http://www.blogcatalog.com)

- “There was this giant retaining wall made out of boulders for the lawn of the apartments next door. I would pretend each boulder was a different room in a house and I would play by
going from room to room and making little furniture pieces out of leaves, sticks and stones. The kitchen was the most fun because then I could make stick bowls and cups to fill with mud pies."

**CATCHING!**

- “Catching tadpoles all summer long at the forgotten moss pond in the woods, way at the bottom of the log rolling hill behind Nana and Papa's house.” (http://www.blogcatalog.com)

**IMAGINING!**

- “Lying in the backyard during the night while gazing at the domed universe of stars, feeling as if I could be sucked up and away to surroundings unknown, which forced me to hold the grass blades thinking that they would stabilize me if the force of gravity gave way.” (http://www.blogcatalog.com)

- “Walking through the woods with my dog and climbing what I then called 'mountains', exploring creeks and looking up at the heavens from grassy fields.” (http://www.blogcatalog.com)

- “As a fair skinned, red-head I have many memories of playing outside or boating on lakes in Iowa and Minnesota then suffering for days afterwards. The pain didn't stop me; instead I played under the cover of the woods or at night when our woods became even more magical and mysterious.” http://groundwaterfoundation.blogspot.com

**HIDING!**

- “I remember a play area. It had a swing that was attached to the underside of a fake, plastic tree branch. The fake tree was hollow and you could sit inside. I remember getting my first kiss inside that tree from a girl I met.”

**CLIMBING!**

- “I was a tomboy and when I most felt joy and peace is when I was in the woods making camps, climbing trees and picking blueberries.....we used to all pick blueberries together my cousins, aunts and my grandma.....those were my best memories being with nature.” (http://www.blogcatalog.com)

- “I used to climb up the wrought iron and onto the roof of our front verandah, then onto the roof when I wanted some peace. It was lovely.” (http://www.blogcatalog.com)

- “I have precious memories of the poplar tree that grew in our yard. I would climb the tree and sit for hours on a branch, shaded in my leafy hideaway, looking at the blue sky.” (http://www.diaryof1.com)

**WATCHING!**

- “Long road trips with my family as we drove across the Midwest to visit grandparents were the perfect time to gaze at the big skies over cornfields. On these trips I discovered my favorite color with each sunset - skyblue-pink, in all of its glorious shades." (http://groundwaterfoundation.blogspot.com)

- “I would run outside in just my nightgown, no shoes, and sit in the morning glory patch. When the first rays of the sun touched the sleeping flowers—poof! They would open up to greet the morning.” (http://www.hookedonnature.org/lastchild.html)

**DISCOVERING!**
- “One stormy spring day we were out in woods and came across a huge rock cliff when the rain started. We huddled closer toward the side of the rocks to shield ourselves from the wind and rain, when suddenly we noticed millions of tiny snails coming out of the porous rock, it was awesome to watch. Nature’s secrets unfold at certain times under certain conditions before the naked eye!” (http://groundwaterfoundation.blogspot.com)

BIKING!

- “After a rain storm I would grab my bike and ride like a wild thing all around the vacant lot across the street from my house. I would hit every single mud puddle, duck under branches, shaking the rain off all the leaves, and come home soaking wet and covered with mud from head to toe. Boy, was that fun!” (http://www.hookedonnature.org)

LISTENING!

- “I loved falling asleep in the grass to the sound of the summer breeze rustling our neighbor’s giant poplar tree. I often imagined it was the sound of rushing water. When they cut down the tree I cried and cried.”

- “I enjoyed riding on the front of the boat we had. I could not hear the sound of the engine. It was nice and quiet. The ocean smelled so good. The warm sunshine shining down on me was not too hot because of the wind blowing in my face.”

DARING!

- “One summer, my brother and I were under the old railway bridge that was on the site. It crossed over the slow river and was the perfect place for the kids to play. We were all swinging from the cross beams on the bridge when my brother lost his grip. He fell... straight in to the largest bed of stinging nettles I had ever seen. He was wearing shorts. We ran back to the tent with 10 kids in tow. Magic sting cream applied to his entire body, he spent much of the next week sat at the side watching us all play football.” (www.jamieharrop.com/2008/07/09/childhood-memories-join-me-on-an-adventure/)

- “In the evening we would lie on the lawn of this very steep hill and watch the bats come out to feed. They would sometimes fly within a foot of our faces and we would scream with fear and delight.”

PLAYING ALL DAY!

- “I grew up on a farm and was generally sent outside after breakfast and only returned to the house for lunch and dinner. I spent hours building forts and hideouts in the trees, playing hide and seek among hay bales, fishing in the pond, staring at the clouds while laying in the grass, the smell of freshly cut alfalfa, playing in the creek and getting covered in mud, and generally having a ball!” (http://groundwaterfoundation.blogspot.com)

- “My parents took my brother and I on a variety of camping trips every other weekend during the summers when we were growing up. We camped in tents, a pop-up trailer, and even owned a motor home for several years. One of my favorite camp grounds that we frequented was named Colorado Heights Camp Ground. There, my brother and I were given free reign to run, play, dig, catch, and explore until sunset.” (http://groundwaterfoundation.blogspot.com)

- “We stayed up late and played well into midnight out on the shared driveway with the neighbors-games like red light green light. Then there was sitting in the grass looking at the clouds, playing in the ditch, skating on the frozen ditch, swinging from the weeping willow tree, climbing the cheery tree, balancing on the fence, crawling through the hole in the fence, digging through the paper factory bin, looking for four leaf clovers, playing kick the can, hide and seek, British bull dog, dodge ball, chestnut duals, clackers, Halloween, dances, swings, slides, club house, playing store and school.” (http://uk.answers.yahoo.com/question/)
Three - WHY DO WE NEED NATURAL PLAY?

(Background Research)

"Some 30% - 50% of a conventional playground's budget is spent on safety surfacing and fencing. There are few if any grounds for believing that this percentage of overall spending represents best value."

-Bernard Spiegal, Playlink

PHYSICAL HEALTH & WELL-BEING

- The value of active exploration and intimate encounters with a natural landscape is crucial to mental and physical health, especially for children (Rubenstein, 1998).

- The younger the child the more the child learns through sensory and physical activity; thus, the more varied and rich the natural setting, the greater its contribution to the physical, cognitive and emotional development of the child (Rivkin 1997).

- While organized cardiovascular activities keep children fit, it appears that only spontaneous play (such as that found outside) provides brain connections that stimulate learning. (Schierloh, 1998 and Hinkle, 1988).

- Children who play regularly in natural environments show more advanced motor fitness, including coordination, balance, and agility, and they are sick less often. (Grahn, et al. 1997, Fjortoft & Sageie 2001)
- Children with symptoms of Attention Deficit Disorder (ADHD) are better able to concentrate after contact with nature. (Taylor et al. 2001)

- Children with views of and contact with nature score higher on tests of concentration and self-discipline. The greener, the better the scores. (Wells 2000, Taylor et al. 2002)

- By playing in the natural environment, children’s coordination, balance skills, and agility improved, free play increased, they felt more comfortable about the natural environment and their interest in and knowledge about nature increased. The natural environment is a stimulating arena for mastering and learning processes. (Ingunn Fjørtoft and Jostein Sageie, 2004)

EMOTIONAL AND SOCIAL DEVELOPMENT

- The size of the construction material provided in the outdoor setting and the amount of space available outdoors can stimulate large projects which require cooperation and teamwork, and promote complex sociodramatic play themes (Davies, 1996).

- Spacious outdoor environments support a wide range of activities involving large groups of children, like group games with balls and parachutes (Naylor, 1985).

- When children play in natural environments, their play is more diverse with imaginative and creative play that fosters language and collaborative skills. (Moore & Wong 1997, Taylor et al. 1998, Fjortoft 2000).

- Susa and Benedict (1994) investigated the effect of playground design on elementary schoolaged children’s pretend play and divergent thinking. Results indicated that creativity, which was related to the amount of pretend play, varied as a function of playground design. More pretend play and creativity occurred on the contemporary playground as compared to the traditional playground.

QUALITY OF LIFE

- Children experience a great sense of freedom in the outdoor settings (Davies, 1996).

- The large spaces provide opportunities for children to use their whole body to explore, plan and to implement these plans without limitations on noise and activity (Perry, 2003).

- In a study of 41 programs, it was found that in lower quality outdoor environments children engaged more in functional or repetitive play, while in higher quality outdoor environments, children showed a tendency to display more constructive play than children in lower quality settings. As the quality of the outdoor program decreased, the frequency of negative behaviors increased (DeBord, Hestenes, Moore, Cosco, & McGinnis, 2005).

- Fixed equipment leaves little room for children to play creatively, since there is generally a finite number of ways to use each aspect of the equipment (Brown & Burger, 1984, Walsh, 1993).

- Traditional playgrounds consisting of fixed equipment (such as slides, swings, monkeybars) do not offer opportunities for children to play creatively (Walsh, 1993) and promote competition rather than cooperation (Barbour, 1999).

- Jacobs (1980) suggested that privacy helps in the development of personal autonomy as it gives the child an opportunity to come to terms with his own thoughts and feelings. Privacy also enables children to release their emotions and to gain respite from the pressures of social norms and expectations (Davies, 1996).
It's all about sensory experiences; children judge nature by how they can interact with it rather than by how it looks. And all the manufactured equipment and all the indoor instructional materials produced by the best educators in the world can't substitute for how it feels to a child to build a trench in the sand or squish mud between her toes. And they cannot replace the sensory moment when a child's attention is captured by the sparkle of sunlight through leaves, the sight of butterflies or a colony of ants, or the infinite space in an iris flower.

- Vicki L. Stoecklin, M.Ed

CREATIVE

- "Spontaneous invention and change make for true play and sound child development" (Albinson 20).

INDEPENDENT

- "Play is what children do when their time is not being organized by adults...It is a time when children control and manipulate their world into imagined environments" (Albinson 18).
"Mastering physical challenges at their own pace will help children feel a sense of accomplishment and self-worth that carries over into other aspects of learning" (www.arborday.org)

"Natural playgrounds made with natural play elements, mirror natural world experiences that help children - and young adults - constantly discover new things about themselves and the world around them through experimentation, observation, problem-solving, and manipulation.” (www.naturalplaygrounds.com/resources_article_why-encourage-natural-pla)

**PROUD**

- “attachment to the land is not only good for the child, but good for the land as well.” (Louv, 157.)

**IN WONDER**

- “Children live through their sense. Sensory experiences link the child’s exterior world with their interior, hidden, affective world...freedom to explore the outdoor environment is essential for healthy development.” (Louv, 65)

**INTELLIGENT**

- “The core of the naturalist intellect is the human ability to recognize plants, animals and other parts of the natural environment.” (Louv, 71.)

- “Any natural place contains an infinite reservoir of information, and therefore the potential for inexhaustible new discoveries.” (Louv, 67.)

**JOYFUL**

- “enthralling pleasures of building wigwams in the woods, gathering hickory nuts and apples, hunting frogs, haying and harvesting, and scampering barefoot down long, leafy lanes...”(Louv, 150.)
SAFETY

It is the job of all those responsible for children at play to assess and manage the level of risk, so that children are given the chance to stretch themselves, test and develop their abilities without exposing them to unacceptable risks that are life-threatening or likely to cause serious injury.

However, if we do not provide controlled opportunities for children to encounter and manage risk then they may be denied the chance to learn these skills. They may also be more likely to choose to play in uncontrolled environments where the risks are greater. www.freeplaynetwork.org

Safety must be considered at all stages of play but, inevitably, there will be risk of injury when children play, as there is risk of injury in life generally. We must not lose sight of the important developmental role of play for children in our pursuit of the unachievable goal of absolute safety. www.freeplaynetwork.org

Natural playgrounds are designed to eliminate fall heights. They have rolling hills and fallen logs rather than a central play structure with monkey bars. They have much lower injury rates than standard playgrounds (Fjortoft and Sageie, 2000).

The most frequent injury to children on standard playgrounds is a fracture of the upper limb resulting from falls from climbing apparatus (Fissel, 2005). The second most common cause of injury to children on playgrounds is falls from slides (Fissel, 2005). Fall heights are the largest safety issue for most safety inspectors.

Given children's appetite for risk-taking, one of the factors that should be considered is the likelihood that children will seek out risks elsewhere, in environments that are not controlled or designed for them, if the play is not challenging enough. www.freeplaynetwork.org

All children both need and want to take risks in order to explore limits, venture into new experiences and develop their capacities, from a very young age and from their earliest play experiences. Children would never learn to walk, climb stairs or ride a bicycle unless they were strongly motivated to respond to challenges involving a risk of injury. www.freeplaynetwork.org

Children typically have less experience than adults of assessing the broad range of risks and hazards that they may encounter. Hence it is important to give them appropriate controlled environments in which they can learn about risk. www.freeplaynetwork.org

When children become bored, accidents are more likely to happen and therefore an important safety factor is to provide plenty of options for play (Frost 1985, cited in Striniste & Moore, 1989).

As a society, we have--with the best of intentions--grown overly cautious. We need to think more in terms of comparative risk. In limiting children's flexibility to explore nature on their own, we are inadvertently narrowing their opportunities to develop problem-solving abilities, self-esteem, cognitive flexibility, physical health and mental well-being. In truth, the risk to a child's health from early obesity is enormous. (Richard Louv)

One valuable approach to risk management in play provision is to make the risks as apparent as possible to children. www.freeplaynetwork.org
Children find beauty in wildness, so [Natural Play Areas] should provide that, along with openness, diversity and opportunities for manipulation, exploration and experimentation. Children value unmanicured places and the adventure and mystery of hiding places and wild, spacious, uneven areas. They also appreciate animals, creatures in ponds, and other living things, as well as different levels and nooks and crannies, and places that provide shelter, shade, privacy and views.

Vicki L. Stoecklin, M.Ed

MATERIAL & FORM:

**Exploratory topography**
- Mounds
- Curves
- Pits
- Berms
- Stone walls
- Sand pits
- Water courses
- Mud areas
- Natural amphitheaters

**Small pieces**
- Boards
- Blocks
- Wooden boxes
Tree cookies
Stump stool
Fabric
Tools
Shovel
Rake
Hoe
Clipboard
Magnifying glass
Tape measure
Colored pencils
Journals
Guidebooks
Matches
Compass
Kaleidoscopes

Malleable & loose materials
Sand
Water
Leaves
Clay

Variety of spaces
Trellises
Low walls
Bridges
Willow fencing
Changes in level
Changes in plants
Playgrounds on water

Outdoor art
Wall murals
Play sculpture
Sound gardens
Land sculptures
Vegetation sculptures
Fountains
Children’s art

Unprogrammed spaces

Live animals

Physical challenges
Balance beams
Logs
Ropes
Climbing areas
Trails
Digging areas
Boulders
Log steps
Crawl-through log

Different abilities
ADA accessibility
Places for children to rest
Separate activities for older children and younger children

**Wild areas**
- Native plants
- Wildlife attracting plants

**Resting spots**
- Gazebos
- Pergolas
- Arbors
- Shade tents
- Benches
- Grassy areas
- Tables

**Places for first-hand interaction**
- Butterfly observation areas
- Frog ponds
- Birdhouses
- Nature paths

**Things to show change**
- Rain collection ponds
- Rain gauges
- Shadow-play
- Sundials

**Opportunities to learn and to teach**
- Amphitheaters
- Interpretation signs
- Experimentation stations
- Educational trails

**Opportunities for performance**
- Rain sticks
- Marimba
- Bongo
- Akambira
- Dancing scarves
- Acting stages

**ACTIVITIES:**

**Climbing**
- Up rocks
- Under logs
- Up hills and mountains
- On boulders
- Up trees
- On ropes
- Up ladders

**Sliding**
- Down hills
- In winter
- In summer
Down slides
Water
Metal
Wood

Swinging
On swings
Rope
Tire
Plastic
Wood

Balancing
On beams
On logs
On rope
On boards
On pillars

Digging
In dirt
In sand
With shovels
With hands

Running
On trails
Through fields
In water
Through trees
On roads
Up hills

Hiking
Up mountains
In forests
In fields
Through rivers
Through deserts
In canyons
To peaks

Hiding
In leaves
In logs
Behind trees
Between rocks
In shrubs
Under tall grasses

Walking
Along streams
Under bridges
On bridges
Through trees
Through tunnels
In fields

Pushing
Swings
Water

Pulling
Rope

Jumping
Over waves
Over logs

Cooking
On a fire
In an oven
With a barbeque

Speaking
Loudly for an audience
Quietly to oneself

Singing
Camp songs

Seeking
Friends who are hiding
Frogs in ponds
Insects under stones

Knowing
How to set up a tent
What kind of animal it is
What kind of plant it is

Playing
Capture-the-flag
Skipping stones

Throwing
Stones
Sticks
Balls

Building
Fortresses with rocks and tree limbs
Fires
Rafts
Traps

Making
Wreaths
Daisy chains
Mud pies
Feather and leaf boats
Miniature dams in shallow streams

Touching
Fuzzy flower buds
Rough tree bark
Sand
Mud
Water

Tasting
Sour Oxalis
Sweet berries
Salty sweat

Seeing
From high above
In close detail
The nighttime sky
A deer in the woods

Boating
Canoeing
Rafting
Kayaking

Camping
In a tent
Under the stars
In a vehicle

Swimming
In a lake
In the ocean
In a deep river pool

Fishing
Horse riding
Stargazing
Wildlife viewing
Picnicking
Archery

Napping
In a hammock
On a blanket

Sand Play
Water play
Playleadership
Bicycle games
Ball games
Rest and Quiet play
Winter play
Adventure play
Play with ropes
APPENDIX I. EXAMPLES
THE WAVE FIELD” BY MAYA LIN
Ann Arbor, Michigan

THEME: "The Wave Field" is a series of fifty grass waves in eight rows, covering approximately 10,000 square feet of a college campus. Not a playground, but certainly playful and engaging.

ELEMENTS:
1. Fifty berms made of soil, sand and sod
2. A square concrete ‘frame’ that acts as an enclosure
**THEME:** The Children’s Room’s unique, natural playground has a dry river bed and pathways that meander throughout. The fenced-in play space, accented by giant boulders and native grasses, allows children the opportunity to explore nature through safe and creative play.

**ELEMENTS:**
1. Giant sandbox shaded by a geometric ‘sky shade’
2. Three ground-level ‘suspension bridges’
3. Fossil pit for digging
4. Jungle gym with tire swing and rope swing
5. Hill slide
6. Dry riverbed
7. Grassy area for unstructured play
8. Boulders for sitting and climbing on
9. Curving pavement forms
10. Naturalistic plantings
11. Wood steps for climbing
BOSTON CHILDREN’S MUSEUM BY VAN VALKENBURGH ASSOCIATES
Boston, Massachusetts

THEME: Not really a playground, but certainly playful, the maze plaza and marble boulders from the Boston Children's Museum. A 2008 ASLA award winner. The jury says: "It is playful and daring without being silly and avoids the clichés of working with children's landscapes".

ELEMENTS:
1. Landscape sectioned into different and distinct play areas
2. Zig-zag maze paving pattern
3. Oversized milkbottle
4. Giant boulders garden
5. Greenspace for walking through
HERO PLAYGROUND by RURAL STUDIO  
Greensboro, Alabama

THEME: The H.E.R.O. (Hale Empowerment and Revitalization Organization) Playground was built for the Hale County Department of Human Resources. The design was inspired by research indicating that children are most comfortable in natural environments. Students used natural materials and simple shapes to increase the playground’s appeal to children. Donated electrical poles, which are angled in different directions, are meant to resemble trees.

ELEMENTS:
1. Donated poles used to represent trees
2. Wood box tunnels for climbing through
3. A tire swing
4. Large sandbox
5. Rolling berm hills for play
**THEME:** The Mission of the Bay Area Discovery Museum is to engage, delight and educate children through exploration of and connection with the local environment and the diverse communities that live here.

**ELEMENTS:**
1. Croaking frog instruments – sounds from nature, interactive
2. Oversized Blades of Grass for Climbing – change in size, active
3. Log stairs – natural materials, active
4. Elevated water channel – mimics a natural stream, creative play
5. Sticks and logs for building – use natural materials, creative play

http://www.baykidsmuseum.org/
THEME: A children’s rain garden to integrate educational play about stormwater while slowing & cleansing water running into Chesapeake Bay. By Oculus design firm with artist Jann Rosen-Queralt and constructed through a grant from the Kiwanis Club of Arlington.

ELEMENTS:

1. Water vessels – two eight-foot-tall, rust-hued steel cones that collect water from the roofs of park buildings and release the water a drop at a time after a rainfall, thereby creating a trickle of water into the garden for a day afterward. Provides art in the garden and acts as a filter for the water.
2. Water pump with water flume – rainwater collected in an underground storage tank is connected to an old fashioned pump from which children can send water into a flume crafted from four concrete half-pipes adorned with little red and blue handprints. Kids enjoy floating twigs or little boats and damming up the channel.
3. Embedded art – Decaying wood pieces embedded in the garden’s concrete wall give the impression of falling sticks and leaf imprints add interesting natural details.
ORGANIC JUNGLE GYMS BY DREAMWEAVERS
http://dream-weavers.co.za/

THEME: We at Dreamweavers believe that all children need a magical place to climb, play and daydream, free of the harsh poison’s used by most jungle gym builders and suppliers. Therefore we create beautiful organic jungle-gyms custom built into your special spot in the garden using organic, naturally shaped tree branches and strong colorful ropes.

ELEMENTS:
1. Swings
2. Climbing walls
3. Rustic ladders
4. Slides
5. Monkey bars
6. Tree houses
THEME: We aim to design environments which promote to open people’s hearts for more action and learning.

ELEMENTS:
1. Open areas for play
2. Sculpture children can climb on and into
3. Ropes for climbing
4. Wooden boxes to make tunnels and forts
5. Slides
6. A dynamic design
TEARDROP PARK
Manhattan, New York

THEME: Designed by Michael Van Valkenburgh Associates, this park is meant to give children a sense of the Catskills. The 27-foot bluestone wall, for example, is meant to evoke a mountainside. The wall will develop dripping water on its jagged rock face during the summer and icicles during the winter. The adjacent Solaire, America’s first environmentally advanced residential tower, agreed to reduce the size of the rooftop equipment by six inches, enabling the park’s north lawn to get exactly enough sunlight – four hours – to grow grass that is free of pesticides and insecticides. Over 50 percent of Teardrop’s materials came from within 500 miles of the site, reducing vehicle pollution, energy consumption and the potential for traffic accidents.

ELEMENTS:
1. Pocket marsh with log bridge
2. Hill for rolling down
3. Hill slide into sandpit
4. Sandbox with water spigot
5. Winding paths
6. 25-foot-high cliff for climbing
7. Rock seats
8. Reading circle
BERKELEY MARINA ADVENTURE PLAYGROUND
Berkeley, California

THEME: Unique outdoor recreational park where preschoolers play, build, and paint. The playground consists of towers, forts, and boats all designed and built by kids. Preschoolers can build using hammers, nails, saws, and donated material. Water-based tempura paint and paintbrushes are available to complete their masterpieces. Rounding out the fun are walls made out of old tires and spider webs created from rope. It was opened in 1979 and was formed to give children the chance to learn about cooperation, meet low-risk physical challenges, and gain confidence.

ELEMENTS:
1. Tools
2. Loose elements like boards, boxes, rope, sheet metal, etc.
3. Space to build
4. Topography
THEME: A unique child-centric downtown oasis, Imagination Playground combines sand, water, “loose parts” and play associates to encourage a constantly changing environment where children can play, dream and build. Activity is mixed with creativity by providing diverse materials to promote unstructured “free play.” Scheduled to open 2009 (though Imagination Playground in a box was launched in Brooklyn this year).

ELEMENTS:
1. Loose parts: tires, slides, blocks, etc.
2. Change in level
3. Pipes area for climbing
4. Free space for building
5. Tools
6. Water area
7. Sand area
Valby parken is the second biggest park in Copenhagen. From 1994-2004 it has been totally renovated. The ambition is that the playground should become a good alternative to the many commercial amusement parks, which are appearing everywhere.

**ELEMENTS:**
1. Original woodland preserved
2. Added hills
3. Added meadow
4. Large area of sand and gravel
5. Small green islands
6. Winding paths
7. Village of woven willow huts and plaited fences
8. Look out point on snail mound
9. Wooden bridge and boat
THEME: The old playground from the 1970's was completely run down and was to be renovated in 1996. The social authorities decided to hold a theme day on playgrounds for the leaders of institutions for children in Copenhagen. Workshops were held, among other things, where the people working in the institutions should put forward their ideas for the “perfect” playground. It was stressed right from the start, that there would not be the usual economic speculation or discussions about safety in the playground. On the contrary, it should be imagination alone, supported by pedagogical arguments, which would decide the final suggestion for a playground.

ELEMENTS:
1. Small places for hiding
2. A variety of surfaces for different activities
3. Bridges
4. Water spray area
5. Fruit trees
6. Flowers
7. Pool
8. Willow copse
9. Stones
THE GARDEN OF SENSES
Faelledparken, Copenhagen
http://www.sansehaver.dk/asp/side/sansehaven.html

THEME: The idea behind the Garden of Senses is to give children a glimpse of the richness of nature, in order to awaken their interest, help them to learn about nature and to respect it. The first Gardens of Senses were created in connection with homes for children and young people with multiple disabilities, who were unable to go out and experience "real" nature. These gardens are usually small plots just outside the doors of the homes.

ELEMENTS:
1. Winding paths
2. Tangible sculptures that appeal to each sense
3. Riverside scenery
4. A maze
5. Grove of ginkgos
6. Butterfly garden
THEME: "Freiburg City Council has been installing not conventional playgrounds - the sterile flat fields full of brightly coloured fixed equipment so common in the UK - but rich, naturalistic play spaces full of mounds, ditches, logs, fallen trees, bushes, wild flowers, boulders and other natural features."
Tim Gill

ELEMENTS:
1. Sculpture
2. Bridges
3. Sand pit
4. Dry riverbed
5. Stones
6. Plants
7. Winding paths
THEME: The Wilsonville project is part of a burgeoning “creative playground” movement—one that eschews the homogenous regulated space of contemporary recreational areas in favor of diverse open-ended “playscapes.” Ranging from Modernist set pieces to bucolic panoramas, the new projects aim to move beyond gymnasium-style functions (crawling, swinging, climbing). Instead the goal is to stimulate kids’ imaginations, encourage independent exploration, and—more ambitiously—incorporate the twenty-first-century playground into the fabric of community life.

ELEMENTS:
1. Amphitheater
2. Grassy mounds
3. Water fountain
4. Red volcano cones and climbing area
OTHER EXAMPLES

From: Kjelsås, Oslo, Frode Svane: www.barnas-landskap.org
From: The Garden of Senses in Faelledparken, Helle Nebelong
www.sansehaver.dk/.
School yard, Lund, Sweden

Chapelfield Play Area, Cowie, Stirlingshire
Playground for young children, Frysja, Kjelsås, Oslo

Nature Playground Klovermarken
Denmark
ONDER – A GIANT HAMMOCK SHOWS SCALE
CREATIVITY – SPECIAL PLACES FOR THE IMAGINATION

STEWARSHIP – MAKING THE OUTDOORS FEEL FAMILIAR AND SAFE
BIBLIOGRAPHY

Albinson, William. “A Tale of Two Playgrounds: Using design to stimulate minds.” Parks & Rec Business
   Easy to understand article on how and why to build certain elements into the playground.

Bengtsson, Arvid. Environmental Planning for Children’s Play. Crosby Lockwood & Son Ltd: London,
1970.   Great book with many images of playgrounds from Europe and around the world.


http://playgrounddesigns.blogspot.com/
   A blog about playscapes. Has fantastic collection of images about creative playground design.

http://naturalplaygrounds.com/
   Design firm specializing in natural playgrounds. Website has useful links and background
   information.

http://www.arborday.org  The Arbor Day Foundation
   Especially consult the “Nature Explore Sourcebook” for activity ideas and objects useful for kids in
   nature.

http://www.goodmagazine.com/section/Features/nature_playgrounds
   The recently opened Teardrop Park in Battery Park area of NY is an example of an alternative
   playground.

   Another article on Teardrop Park

http://www.downtownexpress.com/de_73/teardropparkbringjoy.html
   And another article on Teardrop Park

http://www.naturalplaygrounds.ca/
   Design company. Not very good playground examples but has a good research links page. Also
   offers an explanation about safety policies.

   Some cool play structures, not necessarily nature related.

http://home.c2i.net/swan/index.htm  Children’s landscapes in Norway.


http://www.wickedlocal.com/burlington/homepage/x299933619/Playground-Committee-says-design-for-
Francis-Wyman-School-accommodates-all-children
   ADA adventure playground.

   Treehouses.

http://www.ci.berkeley.ca.us/Marina/marinaexp/adventplgd.html
   Berkley adventure playland.

   Great gallery of images, many used in this packet. Based out of Britain. Also has link to info on
   safety studies.

http://adventureplaygrounds.hampshire.edu/
For research:

   NPR audio story on the loss of adventure playground in the US. Talks about the Berkeley Adventure Playground in Northern California.

http://www.sfgate.com/cgi-bin/blogs/parenting/detail?blogid=29&entry_id=14742
Parents candid discussion about the safety of an adventure playland in Berkley, California.


http://www.nwf.org/schoolyard/movement.cfm
   Article by Mary Rivkin on how children are taught to fear nature.

http://www.simplyfamily.com/display.cfm?articleID=001002_nature_preschool.cfm


Links to many articles discussing the topic of children and natural play areas.

http://www.cnaturenet.org/Children & Nature Network for establishing a global community of people and organizations committed to working together to reconnect children with nature.


http://www.cudenver.edu/Academics/Colleges/ArchitecturePlanning/discover/centers/CYE/Pages/index.aspx University of Colorado Denver, Children, Youth & Environments: Center for Research and Design

http://www.bdja.org/oli/ German and English page on "Adventure playgrounds and city farms in Europe and what they contribute to sustainable urban development."

http://micalene.blogspot.com/
   Blog about making play spaces. Has some creative ideas for play structures.
Activities for kids in nature:

http://www.bearriverranch.com/activities.html
Youth camp with a good list of activities they offer.

A couple of do-it-yourself ideas for a swing, platform, bark pipelines and boats.

http://www.123child.com/
A lot of information to sort through on different activities to do with kids. Sorts by topic, such as ‘acorn’ or ‘leaf.’

Safety Concerns:


http://www.naturalplaygrounds.com/resources_article_are-natural-playgrounds-safe.php


http://www.freeplaynetwork.org.uk/adventure/index.html

Other things & people for consideration:

West Philadelphia Landscape Project
Cesar Manrique
Andy Goldsworthy
Patrick Dougherty
Robert Smithsom
Maya Lin
Joseph Brown
Huntington Botanical Garden: Children’s Garden

Appendix ii: an example of how material and form might relate to emotional response.

<table>
<thead>
<tr>
<th>RESPONSE</th>
<th>MATERIAL &amp; FORM</th>
</tr>
</thead>
</table>
| Creativity: "Spontaneous invention and change make for true play and sound child development" (Albinson 20). | ● **Abstract forms** “like mounds, bridges or a slide down an existing hill allow imaginations to work…and allow for play functions to change” (Albinson 20).  
● **Small pieces** such as boards, blocks and wooden boxes encourage children to organize their environment and to develop their creative skills.  
● **Malleable materials** like sand, water, leaves and clay, encourage more creative play. |
<table>
<thead>
<tr>
<th>Exploration</th>
<th>Independence: &quot;Play is what children do when their time is not being organized by adults...It is a time when children control and manipulate their world into imagined environments&quot; (Albinson 18).</th>
</tr>
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<tbody>
<tr>
<td>&quot;If children are to...relate to environmental challenges, then we need to let them experience it&quot; (Albinson 20).</td>
<td>● Variety of spaces through &quot;a layering of trellises, low walls, bridges, changes in level and plants&quot; offers a depth of experience with well-thought out complexity (Albinson 21).</td>
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<td>● Unprogrammed spaces allows children to figure out play activities for themselves. Over-regulation diminishes the learning process (Albinson 20).</td>
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<td>Ability: &quot;Mastering physical challenges at their own pace will help children feel a sense of accomplishment and self-worth that carries over into other aspects of learning&quot; (Arbor Day Foundation). Physical health, spatial awareness, purposeful movement exploration, body competence</td>
<td>● Physical challenges created by balance beams, climbing areas, trails, digging areas, and games can be used to improve agility and fitness.</td>
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<td>● Different tools for different moods &amp; abilities should accommodate a variety of strengths and ages. ADA accessibility should be incorporated as well as places for children to rest.</td>
</tr>
<tr>
<td>Separation activities for older children and younger children to allow more freedom for each age group to fully explore and use their environment without a sense of danger or over-simplification.</td>
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<tr>
<td>Stewardship</td>
<td>● Wild areas relate the play area with the larger environment by borrowing processes, objects, forms and materials from the natural world. Might resemble or blend with environments that are nearby or those that the children are likely to encounter frequently.</td>
</tr>
<tr>
<td>Stewardship</td>
<td>● Resting spots allow time to understand and enjoy the outdoor experience. Shelter from the wind, rain and hot sun can offer quiet moments to observe and connect with each other and with the place.</td>
</tr>
<tr>
<td>Wonder</td>
<td>● Places for first-hand interaction with animals, amphibians, birds and insects through butterfly observation areas, frog ponds, and birdhouses.</td>
</tr>
<tr>
<td>Wonder</td>
<td>● Places that show changes in the seasons, weather, and daylight through rain collection and shadow-play help familiarize children with the rhythms of nature.</td>
</tr>
<tr>
<td>Intelligence</td>
<td>● Opportunities to learn and to teach through amphitheaters, interpretation signs, experimentation stations, and educational tours help understand the natural environment.</td>
</tr>
</tbody>
</table>