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Introduction

Designing outdoor spaces that are attractive to children requires a thoughtful landscape design process that incorporates key considerations of what appeals to children. The following pages embark on an exploration of inspiring ideas for creating magical children's spaces in garden settings. Nineteen case studies of outstanding children's outdoor environments in public gardens are described in detail. The examples provided are intended to serve as a broad platform to inspire the creation of more well-designed children's outdoor spaces and as a resource for anyone planning to design and build such spaces. Through a comprehensive collection of drawings, sketches, and photographs of successful children's outdoor environments, what follows is an explanation of both the design process and criteria for designing children's outdoor spaces.

The primary goal, concept, and design for each garden are evaluated. Within this context, the landscape design process (research, program development, site inventory and analysis, design and construction) and the special considerations relevant for creating children's outdoor environments are also detailed. Design concepts involving scale, water, plants, wildlife, heights, retreat or enclosure, make-believe, creative and active play, and stimulation of the five senses are highlighted. Educational and sustainable landscape concepts unique to each garden are also covered. Educational elements help children learn and appreciate various aspects of the natural environment, and in many gardens the educational component is tied to school curriculum. Sustainable landscape concepts expose children to nature and instill in them environmental stewardship at an early age.

Creating children's outdoor environments is critical in today's society as more and more children grow up in cities. Children no longer have ready access to natural environments, which are important to their physical, mental, and emotional development. Just over half the world now lives in cities, and by 2050, over 70 percent of people will be urban dwellers (United Nations 2014). Children are spending less time outdoors. Sedentary lifestyles are contributing to obesity and other health problems, as well as a sense of disconnection from nature, for today's urban children (Louv 2005).

Children's contact with nature is critical for their healthy development. Research shows that green environments support attention functioning, cooperative behavior, and physical health. Data suggest that childhood experiences of green space bestow strong physical and the emotional benefits (Kellert and Derr 1998). Children's mental and emotional needs must be met to ensure healthy childhood development, but maintaining places where children can be physically active is also crucial (Moore 1997).

When nature no longer occurs naturally for children, it is imperative that we collectively work to design spaces that provide opportunities for children to explore and experience nature.





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Children cultivating
in the garden, 1928





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Brooklyn Botanic Garden's Children's Garden

BROOKLYN, NEW YORK

GOAL

Brooklyn Botanic Garden, founded in 1910, is an internationally recognized leader and innovator in environmental education programs. The Children's Garden program, established in 1914, is the oldest children's garden in continuous use in the world. It was founded in part by Ellen Eddy Shaw, a trailblazing educator and advocate of hands-on learning. According to Brooklyn Botanic Garden, "A botanical institution [can] do important work in both research and display and at the same time connect with its local community through . . . education" (Peters 2014).

CONCEPT

Brooklyn Botanic Garden first opened garden plots to the community on May 2, 1914. Today, it offers various gardening programs for children from two to eighteen years old to assist them in planting their own crops and flowers and harvesting them under the guidance of garden instructors. For the youngest children, between ages two and three, and their parents, the Trees and Saplings program is available. The Seeds program is for four- to six-year-olds entering pre-kindergarten or kindergarten. These programs also combine planting activities with craft making, food preparation, and creative play. Older children in grades one through eight can garden and learn about science, urban ecology, and cooking in the City Farmers program. "Once children are in the eighth grade, they can apply to become an apprentice in the Garden Apprentice Program, which offers internships for students up to grade twelve or eighteen years old to learn and mentor younger children in the Children's Garden," explains Jenine Osbon, coordinator of the Children's Garden.







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DESIGN

In 1914, the garden began with 150 garden plots, each 5 by 7 feet (1.5 by 2.1 meters), planted with a variety of vegetables. Flowerbeds were planted along the boundaries, and larger plants were accommodated in larger sections.

Today, the Children's Garden is 1 acre (0.4 hectare) and is delineated within a fenced area. The plant beds range from 3 by 12 feet (0.9 by 3.7 meters) for Trees and Saplings classes and up to 4 by 15 feet (1.2 by 4.6 meters) for City Farmers classes. Children plan, plant, and harvest crops of lettuce, tomatoes, squash, onions, peppers, and other vegetables and companion plants, such as herbs and flowers. Adjacent to the garden area are the Deborah Reich Courtyard Green, Frances M. Miner Children's House, and an outdoor covered activity area. Built in 1917 for educational programs and tool storage, the Children's House was later named for Frances Miner, who educated children at Brooklyn Botanic Garden from 1930 to 1973.

CONCLUSION

The original goals and ideals are still an integral part of Brooklyn Botanic Garden's Children's Garden and are embraced by both educators and environmentalists. Today, Brooklyn Botanic Garden fosters greening the urban environment through education, sustainable practices, and stewardship. Every year, over a thousand children engage with the Children's Garden. The garden continues to encourage young people to be participants, not just spectators, in community horticulture and conservation.

Opposite top: Harvesting the first crop, 1914

Opposite bottom: Harvesting in the garden, 2015

Top: Tending the garden in the 1930s and in 2015





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Cucurbita pepo (pumpkin)



Lablab purpureus (purple hyacinth bean)



Citrullus lanatus (watermelon)

Children's Garden typical crop list, 2015

Scientific name	Cultivar	Common name
<i>Allium ampeloprasum</i>	'King Richard'	Leek
<i>Allium cepa</i>	'Stuttgarter'	Onion
<i>Apium graveolens</i>	'Tango'*	Celery
<i>Beta vulgaris</i>	'Chioggia'	Beet
	'Golden Detroit'	Beet
	'Bright Lights'*	Chard
	'Golden'*	Chard
<i>Brassica cretica</i>	'Charming Snow'	Cauliflower
<i>Brassica rapa</i> var. <i>rosularis</i>	—	Tatsoi
<i>Brassica oleracea</i>	'Limba'*	Broccoli
	'Vates'*	Collard
	'Lacinato'*	Kale
	'Vates Dwarf Blue'*	Kale
	'Early White'*	Kohlrabi
	'Kolibri'*	Kohlrabi
<i>Brassica rapa</i>	'Gold Ball'	Turnip
	'White Egg'	Turnip
<i>Capsicum annuum</i>	'Purple Beauty'	Pepper
<i>Cucumis sativus</i>	'Lemon'*	Cucumber
<i>Cucurbita pepo</i>	'Black'*	Squash (summer)
	'Costata Romanesca'*	Squash (summer)
	'New England Pie'	Pumpkin
	'Waltham Butternut'	Squash (winter)
<i>Daucus carota</i> ssp. <i>sativus</i>	'Mokum'	Carrots
	'Red Cured Chantenay'	Carrots
<i>Eruca sativa</i>	'Astro'	Arugula
<i>Helianthus annuus</i>	'Mammoth Grey Stripe'	Sunflower
<i>Lactuca sativa</i> var. <i>longifolia</i>	'Black Seeded Simpson'	Lettuce (head)
	'Blushed Butter'	Lettuce (head)
	'Green Deer Tongue'	Lettuce (loose)
	'Hyper Red'	Lettuce (loose)
	'Plato II'	Lettuce (romaine)
	'Speckled Amish'	Lettuce (head)
	'Tom Thumb'	Lettuce (head)
<i>Phaseolus vulgaris</i>	'Provider'*	Bean
<i>Pisum sativum</i> var. <i>macrocarpon</i>	'Sugar Ann'	Snap pea
<i>Raphanus sativus</i>	'Easter Egg'*	Radish
	'French Breakfast'	Radish
<i>Solanum melongena</i>	'Diamond'	Eggplant
<i>Solanum tuberosum</i>	'Desiree OG'	Potato
	'German Butterball'	Potato
<i>Solanum lycopersicum</i>	'Cherokee Purple'*	Tomato
	'Goldie'*	Tomato
	'Principe Borghese'	Tomato (cherry)
<i>Spinacia oleracea</i>	'Space'	Spinach
<i>Tagetes patula</i>	'Sparky Mix'	Marigold

* Crops that were the most productive in 2015 in terms of their yield



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Brooklyn Botanic Garden's Children's Garden

1000 Washington Avenue, Brooklyn, NY 11225

718-623-7200 http://www.bbg.org/collections/gardens/childrens_garden

Opening date: May 2, 1914

Project size: 1 acre (0.4 hectare) within Brooklyn Botanic Garden's 52-acre (21-hectare) site

Design

Ellen Eddy Shaw

Current Contacts

Brooklyn Botanic Garden director of communications: Elizabeth Reina-Longoria

Brooklyn Botanic Garden Children's Garden coordinator: Jenine Osbon

Interviews and Personal Communications

Ashley Gamell, November 9, 2015; Jenine Osbon, December 7, 2015; Elizabeth Reina-Longoria, January 21, 2016



Physalis philadelphica (tomatillo)



Rubus idaeus (raspberry)



Beta vulgaris subsp. *cicla* 'Bright Lights' (Swiss chard)

Opposite top left: Harvesting the crop, 1930

Opposite top center: Harvesting the crop, 2015

Opposite top right: Children's Garden delineated within fenced area

Top left and center: Learning in the Garden Apprentice Program

Top right: Deborah Reich Courtyard Green and Frances M. Miner Children's House





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Winding path through the meadow
toward the marsh

