Play Is the Great Teacher at the Boston Children's Museum

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BOSTON, Dec. 31—Children race across the polished wooden floors. They laugh, shout and scoot up and down the purple and blue and raspberry paneled stairways. The sound rocks the red metal rafters.

The place is the Children's Museum, founded in 1914 and where children once dutifully trooped to look at glass cases of stuffed birds, peered at minerals in locked cases, and carefully viewed exhibits of starfish and sea moss.

It was edifying, but not very exciting.

A few years ago the trustees of the institution, founded by a group of science teachers as a modest natural history museum, decided new directions were called for.

They hired a young man named Michael Spock, fresh from exhibit-designing at museums in Ohio and with a background in education.

Ever wonder what it would be like if you were small and everything else was big? Suppose you found the top of a desk bigger than the floor of your living room, with a telephone as tall as you and a ruler twelve feet long. It would look like this, at the Visitor's Center at the Children's Museum.

Son of Dr. Spock

Mr. Spock is the son of Dr. Benjamin Spock, but his professional entry into the world of children was purely coincidental, he said.

The first departure from the stuffed birds was an exhibit called "What's Inside?"—the focal point of which was a full-size cross-section of a city street.

This included such interesting playthings as a manhole, with cover, that children could climb into.

The exhibition was only supposed to be up for a few months. It lasted for five years.

As a result, a large auditorium, housed in a red brick building behind the museum, was gutted. Two months ago it opened as the new Visitor's Center, filled with a fascinating world of play exhibits.

The center's principle is teaching, not by showing a film on soil, but by letting children get up to their elbows in mud.

The new exhibits include:

¶What is weight?

¶What is size?

¶What makes movies move?

How does a kaleidoscope work?

What did Grandpa's everyday world look like?

In the weight exhibit, a row of different kinds of scales wait to be filled with pieces of sponge, blocks of wood, pebbles, stones, playing jacks, metal disks, cotton balls, spools of thread.

There is also a pair of large balancing scales, suspended from the ceiling, on which the children can sit and balance their weight with five-pound, vinyl-covered bags of sand or with red-and-white cans of Campbell's soup.

While the exhibits are aimed at elementary-school youngsters, many parents bring children barely able to walk. But age makes no difference. Children too young to understand the concepts just play with the materials.

Two-and-half-year-old Becky Riddle said her favorite thing at the center was "the stove." She had been taking the soup cans, one by one, off the shelves and putting them on the big balancing scales. She was cooking, she explained.

Another popular exhibit is What Is Size?

Yvonne Gaines, 5, who had just found her house on a big aerial map of Boston and then scooted past a row of calculators on which the mathematical types were discovering the square roots of numbers, dashed up a short flight of stairs to a platform lined with distorting mirrors, the beginning of the "Size" exhibit.

"Oooh, my head gets squashed all the way up," she chortled at her reflection. Then she turned another sharp corner and raced up to a platform where she could fit her feet into different-size cutouts to find out how big they were, and then stand against a wall painted in brightly colored bands to find out her height.

"Come on, I'll show you what is the best," she said, zipping up and down a few flights of stairs until she arrived at another platform. This one was done up as a desk top straight out of "Alice in Wonderland." Everything on it is 12 times normal size.

"This is my most favorite in the museum," said Yvonne, indicating a 5-foot-high molded Fiberglas telephone that looked just like the real thing, "cause you can climb on it and dial it and you can press down the button and if they ever hook it up, you can call on it."

Also on the "desk top" were a 12-foot-long ruler, a 6-foot-high photograph, a 3-foot-wide box of paper clips, a huge alarm clock and a tremendous pair of spectacles.

In the kaleidoscope exhibit, children arrange vivid pieces of red, green, blue and yellow plastic between two hinged mirrors. The reflections of the patterns are multiplied, and shift as the mirrors are moved.

In this one, teen-agers were sitting next to toddlers, each thoroughly absorbed in his own design.

In Grandpa's Cellar, little boys have fun tuning in the crystal set or using the old-fashioned tools (with a lot of gratuitous guidance from fathers), while little girls crank the wringer of the old washtub or press clothes with an ancient flatiron.

Microscopes, through which the children can look at a frog's skeleton or a leaf or a piece of cloth, absorbs even the 5-year-olds.

Inside the life-size Algonquin Indian tepee, the children can grind corn into meal with a pestle-shaped rock, or try on the Indian leggings or pretend to sleep on the furry animal skins.

There are now about a dozen exhibits at the Vistor's Center and a few more will be added later.

When the private, independently supported museum raises $350,000 there will also be exhibits outside in good weather — including water games and that much-missed manhole.

This is a museum where you don't look. You use things.

Photographs for The New York Times by ARTHUR R. GREENSPON

These aren't really teeth, but they tell how your teeth work