Early Childhood Exhibits: Developing and designing for the youngest learner
Early Childhood Exhibits: Developing and Designing for the Youngest Learner

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Curiosity Corner

Dedicated space for our youngest visitors

Age 0 – 5 years
Open-ended activities with water and wind.
New outdoor playground exclusively for ages 0 - 5.
Partnering with researchers to inform our practice.
Early STEM Experiences
Rooted in Design Make Play
Design emphasizes problem-solving, intentionality, divergent solutions and helps you see the possibilities in the world.
Make invites thinking with your hands, tinkering with materials, tools, and processes, and nurtures the development of science process skills and confidence.
Play privileges delight, promotes intrinsic motivation and leads to deep engagement
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Connected Worlds
Early Childhood Initiative invites young children and their families to design, make and play together.
Purposeful Play and Sensory-Rich Exploration
Materials Literacy And Tool Skills
Early Mathematical Thinking
Early Literacy: Documentation and Sharing
Parents as Co-learners and First Science Teachers
Community Engagement
New Early Childhood Exhibit

Materials Literacy
Big Data for Little Kids
Rich Sensory Experiences
Noticing and Nature
Imaginative Play & Storytelling
Hub for Early Childhood Educators
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History of Kidspace

- Kidspace originated with a preview in 1999.
- Due to its popularity, it was installed as a permanent gallery in 2000.
- Kidspace is extremely well used and well loved by TELUS World of Science visitors, particularly Members.
- It is often the gallery with the most off-peak visitor traffic (outside 10am-2pm on school days), busy from when the doors open until late in the afternoon.
- Many of the exhibits came from previous exhibitions.
- Kidspace has many exhibits that were specifically selected for the space (water table, clubhouse climbing structure, etc.), but also includes many exhibits that were odds and ends from other galleries that were deemed appropriate for the space.
Why is Design so Important?

• It enables children to explore alone, by watching others and sharing with others, (using all cognitive skills).

• It also provides the youngest visitors to use the entire exhibit without any restrictions.
Our Gallery Exhibits- Water Exploration

This area is very popular to our young guests. They explore with boats and the slate wall.
Kidspace Gallery- Build Area

• Designed for the audience of children 0-5 years old. The children that interact are usually 1-5.

• This area is dedicated to building with role playing and building structures.
Exploring with Air

- The Bernoulli Blower is an older exhibit for the visitors.
Role Playing Exploration
Exploring with Motion and Magnets
Exploring with Technology

• This is the only exhibit dealing with technology.
The Creation of the Wonder Gallery

Wonder Early Learners Gallery

All Science Begins with Wonder
Wonder Focus

Created specifically for early learners (children 0–5) and their caregivers, Wonder will offer developmentally appropriate experiences based on cognitive development research. Caregivers will have a number of opportunities to discover and learn more about early childhood development.

VISION STATEMENT
All science begins with Wonder. Grounded in early learning research, this gallery will cultivate curiosity. Children in their first five years, their caregivers, and scientists will play, imagine, explore, and experiment.
Crawl will contain soft, foamy flooring and developmentally-appropriate toys and activities, including rollers, mirrors, and sound-makers. The space will be characterized by a variety of textures and colours, as well as areas to play, and will be separated from other exhibits by a divider that also acts as seating for caregivers, encouraging them to participate in activities with their infants.
The key interactive exhibit will be a water feature. It will support multiple activities, including flexible areas for open-ended water play. The different levels of the feature will accommodate the various ages and sizes of our young visitors. Children will discover principles of cause and effect as they experiment with volume, how water moves, and how it makes other objects move. At the same time, water play will encourage language and social development.
Playing with light is fun and allows children to explore colour, reflections, shadows, magnification, and transparency. Shine will include a dark room, a giant Light Bright, kaleidoscope, flashlights, mirrors, light tables, and colour filters. Using flashlights, children investigate the dark room and discover objects hidden in the room and the strange shadows some make. A large interactive will engage children in the creation of colourful patterns by arranging translucent blocks on a colourful, back-lit table. This creates an opportunity for children to discover light transmission and reflection as coloured light passes through the acrylic blocks. The giant Light Bright will be an outlet for boundless creativity, and will encourage caregiver-child conversations about light, patterns, and art. Multiple visitors can ‘build with light’ at the same time, either side-by-side, or in a team.
Building activities not only allow for exploration of basic physics and engineering principles, but they also promote independent and co-operative play and language development, as well as the development of fine and gross motor skills.

The main focus in Build will be large, foam building blocks. Children can discover how to build and make sturdy structures, how to establish balance, and how to work with (or against) gravity.

Two ‘corrals’ provide separate and contained spaces where visitors can engage in building activities that change periodically. Children will explore, build, and create with different materials—such as blocks, wheels, ramps and non-traditional building materials.

Nearby, a self-contained, recessed area provides opportunities for young children to move, dig, and play with rubber chips.
Children are naturally curious, and need safe, exciting, and appropriately challenging spaces to explore. The early years of a child’s life are embodied by the development of coordination and self-guided movement. During that time, children learn that taking risks and exploring new areas nurtures problem-solving and leads to a sense of accomplishment and independence.

At the centre of the climbing area will be an elaborate climbing structure that will carefully challenge and encourage safe risk-taking in children, and promote kinesthetic learning. It will have a range of activities that can be accomplished independently or together with peers and caregivers. The climber will also feature discovery zones throughout, where children can experience different textures, and find ‘hidden’ discoveries.
A multipurpose area to encourage experimentation and imagination

The way in which young children learn about their world is similar to the way scientists conduct scientific research. Both are skillful in asking and answering questions, and have good imaginations that inspire new topics to ponder.

Experiment is a unique area for caregivers and their young children. At the hub is a large Wonder Bus, a fantastic science vehicle. Experiment has four distinct functions.

1. The science vehicle will encourage children to engage in imaginative role-playing in this area. Children will be able to picture themselves in various roles with access to real materials and costumes.

2. In a variety of self-directed activities, caregivers will learn more about childhood development.

3. Children will investigate simple games and activities that allow them to ‘act like scientists’ as they play, ask questions, and discover.

4. Children and caregivers will be able to interact with scientists in this space, and will have the opportunity to participate in child-friendly studies that will also provide caregivers with information about how children develop.
Meeting the Needs of All Children

• One Saturday we invited some very special guests to test our exhibits for height, width and ease. They became our Jr. Wonder Researchers.
Ways to Engage Caregivers

- These activity cards that were developed are for caregivers and children.
- Each area of the Wonder Gallery will display challenges/additional activities to build upon the visitors exploration.
Community Scientists Initiative (CSI)

- The CSI team comes into Science World to meet with our visitors about science.
- They develop activities to enhance the learning in many galleries and are prototyping activities within Kidspace.
- Parents are also invited to be part of the learning. This will part of the family engagement sessions.
Additional Learning Opportunities

- Living Lab will be adjacent to Wonder to provide more information about cognitive development and children.
- Researchers from different educational institutions will conduct research.
- Student teachers will have the opportunity to observe in the gallery as well as have some practicum experience.
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ASTC 2015
Montreal

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Discovery Room (circa 1992)

Natural History Displays
- Real objects, without context, “ugly” and “boring” = un-inviting
Discovery Center: Marine Biologist’s Boat
Discovery Center: Geologist’s Field Station
Discovery Center: Fantasy Play Bee Hive
Discovery Center: Sensory Forest
Drop-In Program: Little Chemists
Pilot Program: “Make with Me”

- caregiver-led facilitation
- immersive story line
- preschool-friendly materials
Engineer a water sensor

Design a sensor bottle that floats at a specific depth in the river

**Design**
Choose the depth at which you want your sensor bottle to float and the pieces you will use.

**Build**
Attach floats and weights to the Velcro on your sensor bottle.

**Test**
Place your sensor bottle in the water to see how it floats.

**Improve**
Adjust your design and test it again.