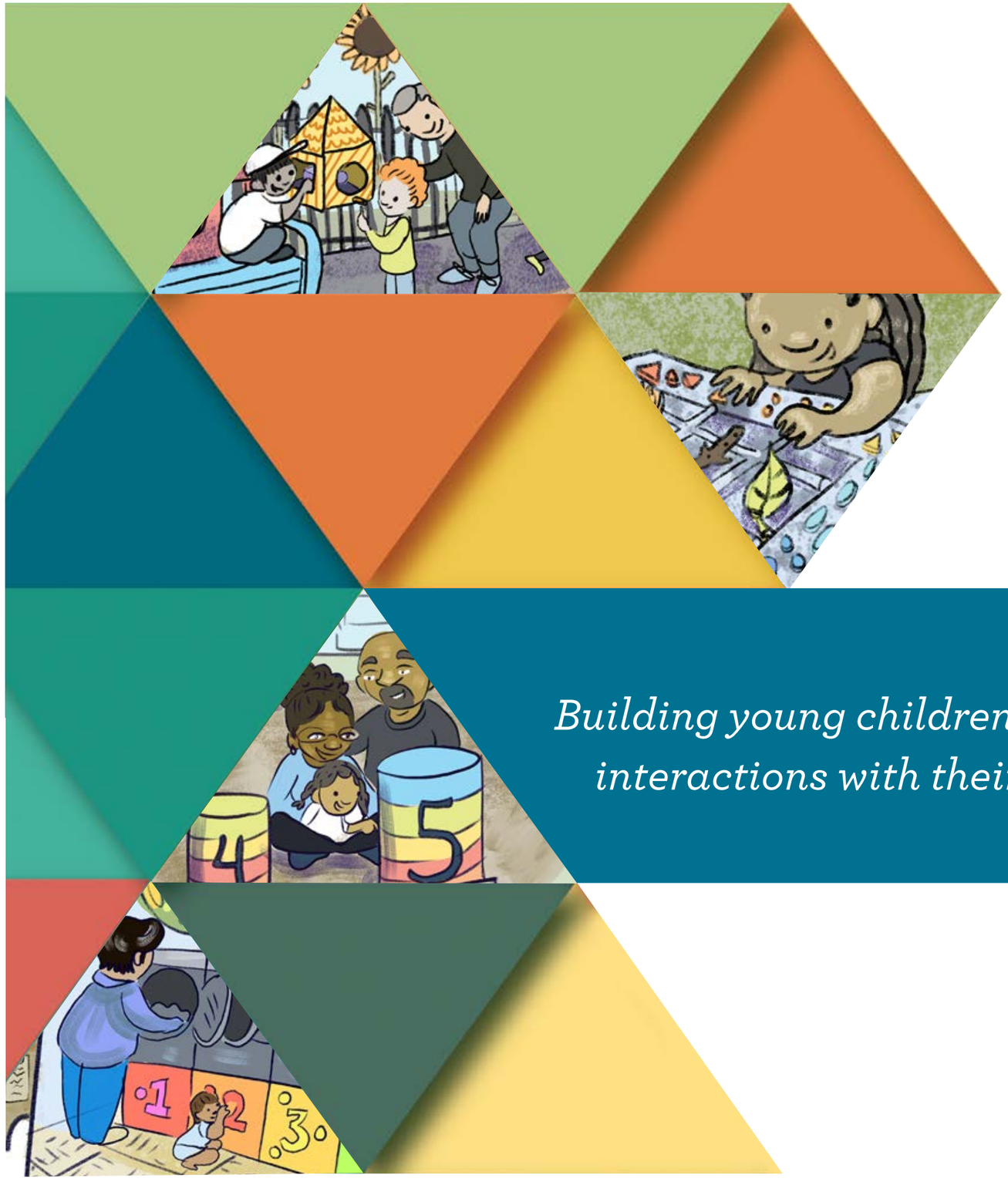


Playful Learning Landscapes

CHICAGO CHILDREN'S MUSEUM PARTNERSHIP

EXECUTIVE SUMMARY

JULY 2020

Building young children's early math skills by inspiring playful interactions with their caregivers in everyday places.

A COLLABORATION AMONG THREE CHICAGO PARTNERS

Playful Learning

Chicago Children's Museum

metropolitan family services

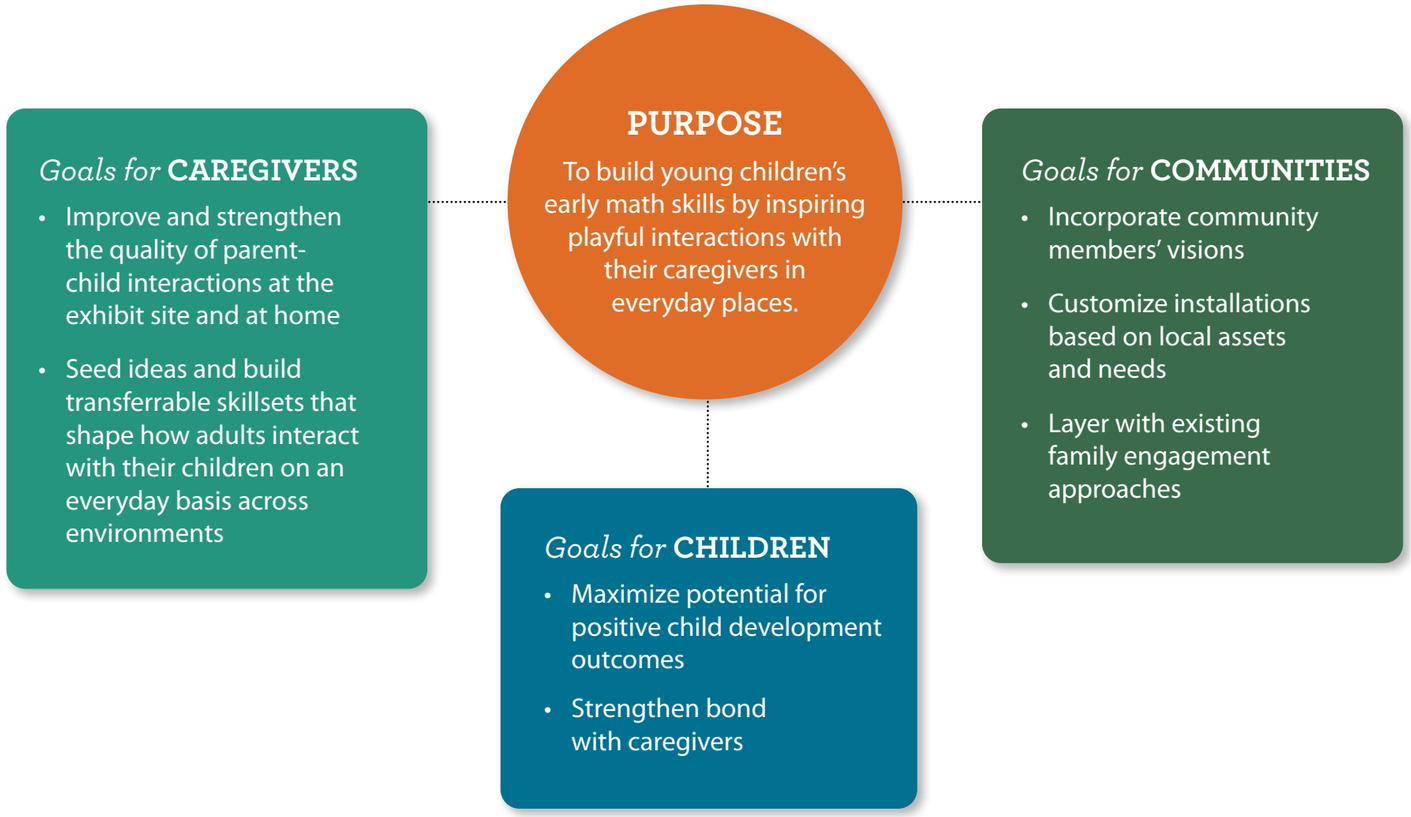
Creating a playful learning concept plan for three communities

In early 2020, McCormick Foundation invited Chicago Children's Museum to lead the development of three concepts for the Playful Learning Landscapes project. These concepts would build upon an initial set of Playful Learning installations planned to open in summer 2020.

First, the team finalized locations for the concepts in each community — a **laundromat in Little Village**, a section of **Douglas Boulevard in North Lawndale**, and a **community garden in Aurora**. Next the team defined WHY each installation is important, followed by HOW we intended to accomplish our goals, and finally WHAT each installation would include. During the Concept Development phase, we also **defined the target audience as birth to five and their caregivers**, and set a focus of **building children's early math skills**. Meetings held with community members and visits to the selected sites informed all of these decisions.

Math Fundamentals
Birth to age 5

Number Sense • Representation • Measurement
Shapes and Spatial Relationships • Patterns
Problem-Solving



THE APPROACH

"Mathematize" the environment! Children have the ability to learn math and develop an interest in it from a very early age. All components will help both adults and children see their world through a math lens and learn to recognize the math concepts built into the fabric of their lives. Building this early math "foundation" leads to the development of more advanced mathematical skills, supports general cognition and learning, and is a strong predictor of later achievement.

The design builds upon Chicago Children's Museum's history of excellence in creating exhibits that support play and learning and are built to withstand the realities of how children play. Designs will be playful, colorful, familiar and provide visual and written tools that strengthen caregiver-child interactions. Designs will call attention to existing environmental features and incorporate community-inspired and created elements.

Kleen-O-Matic Laundromat

Little Village

The laundromat is transformed into a vibrant ceiling-to-floor, wall-to-wall exploration of playful math learning. Signage and info cards help adults support children's math skill development.

A mosaic, designed by a local artist, adds beauty and invites exploration of shape, pattern and how parts make up a whole. The sophisticated design appeals to all ages.

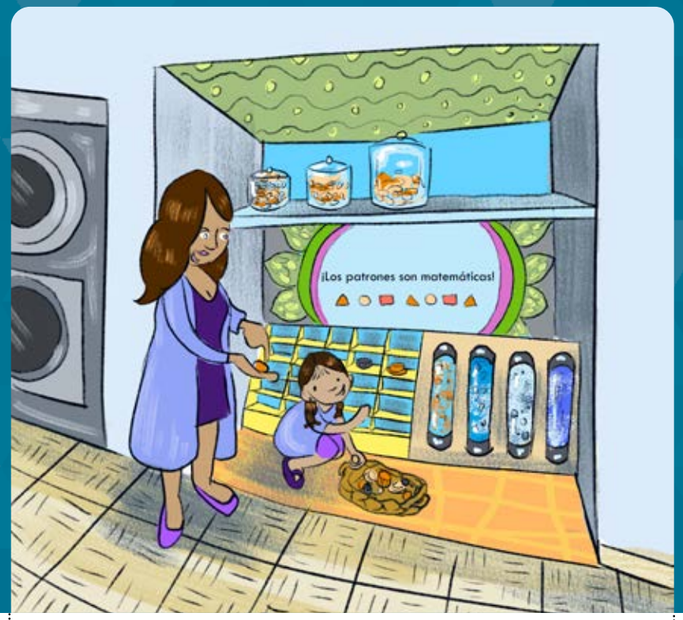
Washing machines are learning tools with their shapes highlighted by colored lines and numbers added so children can explore counting and number sense.

Math words abound! Labels on surfaces indicate spatial and directional concepts—*over, under, left, right*—and comparison language—*bigger, smaller*—helping caregivers infuse math language into everyday conversations.

Using clothing on hand, sorting becomes a natural math activity. Labeled tabletops and sorting carts prompt categorization of items by size, type, and color, helping families experience rich math learning during everyday tasks.

Kleen-O-Matic Laundromat

Little Village



LID GRID NOOK

A grid invites children to examine, sort, and place colorful caps from detergent bottles into rows and patterns. Children can categorize by size or color, add to a pattern, or create their own. Labeled displays prompt conversations about size, quantity, and volume. Info cards reveal the math learning and explain how different ages explore.

MATH LEARNING

Children 0-2: Quantity, comparison, one-to one correspondence

Children 3-5: All the above plus recognizing, continuing and creating patterns; geometry; spatial relationships

MATH LOUNGE

Cozy, comfortable seating invites families to relax and explore. A coffee table with graphics encourages sorting activities like pairing socks, sorting clothing by color or size, and folding clothing in half and quarters. An abacus of colorful detergent bottle caps invites children to explore number sense and counting by sliding the caps into sets. Caregiver signage and laminated cards support caregivers.

MATH LEARNING

Children 0-2: Comparison, one-to-one correspondence, number concepts

Children 3-5: All the above plus counting, sorting and classifying; categorization

CAREGIVER CARDS

These attractive and engaging laminated cards are tethered to components, providing just-in-time information to help adults support their child's learning—and see how they are already doing so. Cards have an activity on one side and math-learning benefits on the other.

Full decks of all the cards are located in the MATH LOUNGE. The cards offer tips on how to use the activities, illustrate math concepts, describe how different ages might engage in the activities, and offer conversation prompts.

Activities will be spread throughout a two-block interior section of the boulevard.

Douglas Boulevard

North Lawndale

Everything along Douglas Boulevard becomes rich fodder for playful math learning. Colorful components invite children and their caring adults to use the park-like setting to build math skills.

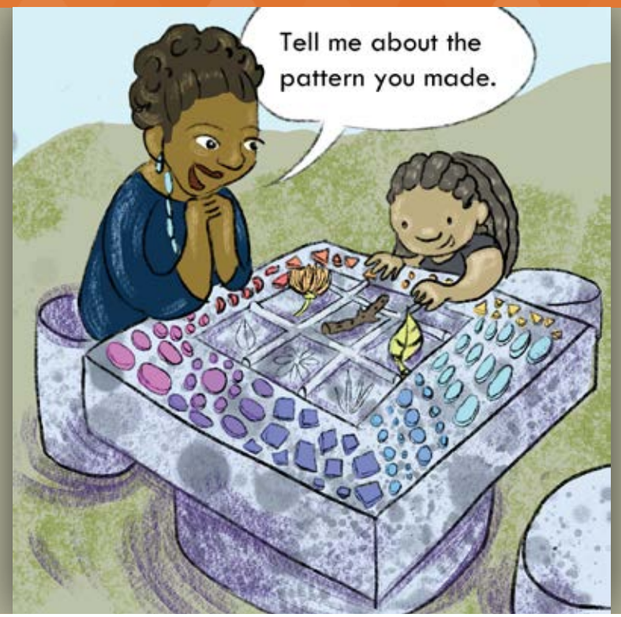
Durable and attractive signage prompts conversation: *How many red cars can we find? How many lines do we see in the crosswalk? What shapes do you see on that building?* Signage shows how activities build math skills: *When you ask your child questions about shapes, numbers, and patterns, you are building their math skills.*

A math playhouse invites exploration as children touch, walk through, and play in the large, open shapes that make up the structure. A colorful abacus comprises one "wall" of the house, inviting counting and number play as children slide colorful, durable spheres into sets.

Math word labels indicate spatial and directional concepts, such as *over, under, inside, outside, left, right,* prompting caregivers to incorporate math into everyday conversation.

Douglas Boulevard

North Lawndale



ACTIVITY TABLE

Children count, sort and make patterns on a grid with numbered spaces. Leaf and twig shapes are imprinted on the table's surface. Signage invites children to find matching items to continue patterns or make their own. Embedded around the table's edge are stones of different textures, shapes, colors, and sizes. Children can touch the groups of stones, observe their similar and different qualities, count them, and go on a scavenger hunt to find matching stones.

MATH LEARNING

Children 0-2: Comparison, material exploration

Children 3-5: All the above plus sorting and classifying, categorization, seriation, ordering and recognizing, continuing and creating patterns

TACTILE SCENE

A dimensional scene of buildings visible across the street has routed lines that highlight their shapes: a triangle roof; a circular window; rectangular steps. Children can trace the building shapes with their finger and touch the adjacent 3-D shapes. Both a tactile and visual experience, children notice shapes in their surroundings, while adults see that math learning can happen almost anywhere.

MATH LEARNING

Children 0-2: Comparison, spatial relationships

Children 3-5: All the above plus geometry, measurement, categorization

MATH STOOLS

Each stool has numbered sections of equal size. Children can notice the different heights and how units make a whole as they sit, climb and stand on the stools. *If I stand on **2**, I am as tall as my big brother! If I stand on **5**, I am as tall as Dad!* Each section is a different color and embedded patterns of natural objects invite tactile exploration.

MATH LEARNING

Children 0-2: quantity, number concepts, comparison, measurement

Children 3-5: All the above plus counting, recognizing patterns, geometry, spatial relationships

Marie Wilkinson Community Garden

Aurora

Positioned along the sidewalk and fence, the installation at Marie Wilkinson Community Garden uses the natural environment and visual, tactile, and auditory components to invite playful exploration of math concepts. Sunflowers planted just inside the fence are a living math interactive: *Which of these sunflower heads is larger? Let's count the petals! I see a circle of tiny seeds. How many rings are on this stump?*

Caregiver signage along the fence describes key math concepts young children can explore and prompts conversations about the garden through a math lens. *What shapes can we find in the garden? Which plants are growing the tallest right now? How many different kinds of flowers can you see?*

A variety of colorful components invites families to engage in playful math exploration, including an activity table for sorting and patterning; an artistic birdhouse installation for exploring shape and size; and a large-scale xylophone for experimenting with sound patterns and observing shape and size.

Marie Wilkinson Community Garden

Aurora

BIRDHOUSE ACTIVITIES

A series of decorative (non-functional) birdhouses designed by local community members prompt conversation between children and caregivers. The birdhouses are placed within reach so that children can feel the shapes and see the different patterns and sizes. Signage prompts conversation through a math lens. *Let's count the blue birdhouses. I see a circle on this house; can you see circles within the garden? This house is tall and this one is small!*

MATH LEARNING

Children 0-2: quantity, number concepts, comparison, measurement

Children 3-5: All the above plus counting, geometry, recognizing patterns, spatial relationships

ACTIVITY TABLE

Children count, sort and make patterns on a grid with numbered spaces. Leaf and twig shapes are imprinted on the table's surface. Signage invites children to find matching items to continue patterns or make their own. Embedded around the table's edge are stones of different textures, shapes, colors, and sizes. Children can touch the groups of stones, observe their similar and different qualities, count them, and go on a scavenger hunt to find matching stones.

MATH LEARNING

Children 0-2: Comparison, material exploration

Children 3-5: All the above plus sorting and classifying, categorization, seriation, ordering and recognizing, continuing and creating patterns

MATH STOOLS

Each stool has numbered sections of equal size. Children can notice the different heights and how units make a whole as they sit, climb and stand on the stools. *If I stand on **2**, I am as tall as my big brother! If I stand on **5**, I am as tall as Dad!* Each section is a different color and embedded patterns of natural objects invite tactile exploration.

MATH LEARNING

Children 0-2: quantity, number concepts, comparison, measurement

Children 3-5: All the above plus counting, recognizing patterns, geometry, spatial relationships

Chicago Children's Museum is proud to partner with Playful Learning Landscapes and Metropolitan Family Services to conceptualize math learning experiences for Little Village, North Lawndale and Aurora.

Playful Learning Landscapes (PLL) is a collaborative project that transforms everyday spaces where families live, work, and play into opportunities that prompt learning through family interactions. PLL is a unique collaboration formed by a group of funders, working with three community organizations (lead anchor organizations) and Metropolitan Family Services, with the shared goal of creating convenient, accessible opportunities for parents and caregivers to engage young children in meaningful learning during everyday tasks.

Chicago Children's Museum (CCM) is a national leader in developing original, play-based experiences that engage children and families in creative, collaborative learning. CCM, a cultural anchor for Navy Pier, is among the top ten most visited cultural institutions in Chicagoland, serving 400,000 visitors each year. The museum's child development experts and exhibit developers researched and created these playful learning landscapes to ensure they inspire young learners and their caregivers to explore the math that surrounds them and revisit the installations over time.

Metropolitan Family Services empowers families to learn, to earn, to heal, to thrive. Part mentor, part motivator, part advocate, since 1857 Metropolitan Family Services has been the engine of change that empowers Chicago-area families to reach their greatest potential and positively impact their communities.

THANK YOU to all the parents and community members who provided guidance and support throughout the development of this project, and to the participating communities and Steering Committee members.

Little Village Kleen-O-Matic Laundromat	**North Lawndale** Douglas Boulevard	**Aurora** Marie Wilkinson Community Garden	**PLL Steering Committee**
Little Village Community Foundation	Illinois Action for Children	SPARK - Fox Valley United Way (Strong, Prepared and Ready for Kindergarten)	City of Chicago - Mayor's Office CME Group Foundation Crown Family Philanthropies Dunham Fund Illinois Children's Healthcare Foundation McCormick Foundation Steans Family Foundation