Welcome to
Where's the Math in Blocks?

The Power of Blocks

Research indicates that young children's block play helps build a stronger foundation for learning mathematics

Research on how block play boosts test scores

A longitudinal study that began in 1984, tracked 37 preschoolers and kindergartners until 2001 when they were in high school and found that those who had more sophisticated block play early on got better math grades and standardized test scores in high school.

Wolfgang, Stannard and Jones 2001

Research on how block play supports development of math language

A 2007 study by Dimitri Christakis, director of the Center for Child Health, Behavior and Development at Seattle Children's Hospital, found that those with block experience scored significantly better on mathematical language acquisition tests.

More research on the power of block play

Early block play predicts conceptual understanding of geometry and mathematical equivalence in elementary school.

Peterson and Levine 2014

Welcome to Chicago!

Building Challenge

Using the materials you have been provided, please build a model of one of our important landmarks, the Hancock Building

Views of the Hancock Building

Stages of building with blocks

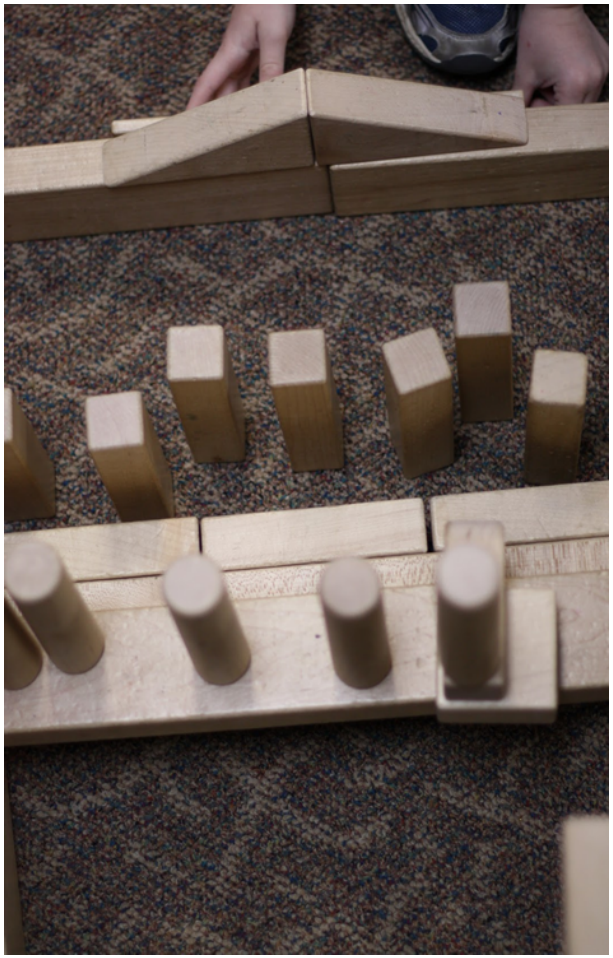
All children progress through specific stages as they use blocks in play.

Stage 1: Exploring Blocks

- **Carrying blocks: Blocks are carried around but not used for construction**
- **At this stage they love to carry, move, touch, hold, drop and feel blocks, generally exploring their properties. They like a variety of containers in which to pack, repack, and haul block**

Stage 2 : Building Rows & Towers

At this stage, children make a tower or lay the blocks on the floor in rows, either horizontally or vertically. There is much repetition in their building. It is in this stage that the first application of imagination occurs as props such as cars or trucks are used on "roads."



Stage 3: Building Bridges & Pathways

At this stage children begin to experiment connecting two blocks with a space between them with a third block. Children learn to bridge by trial and error as they begin to explore ideas about measurement and *balance*

Stage 4: Building Enclosures

Children close up space between blocks with other blocks. Children begin to plan ahead about how to close up a space and solve problems to reach their goals. After enclosing a space with blocks flat on the floor, children begin constructing stacked enclosures. They include passageways. They often add storylines, incorporating miniature animals, people, signs, etc.

Stage 5: Adding Symmetry

Structures with more involved designs that pay attention to balance and intricate symmetry

Children's structures include deliberate efforts to achieve symmetry and balance, and prominent, often decorative patterning. They sort and match shapes and sizes, and find equivalences. Children name their structures.

Stage 6: Planning & Building Elaborate, Complex Structures

including Dramatic Play

Children plan and build elaborate structures, revising their plans as they work. When building together, they often assign each other builder roles. They use a variety of materials to achieve desired effects. They spend much time sorting, matching, and arranging.

What would you say about their block building stage?

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Stop & Reflect

What idea will you take from this session to your work in the classroom?

We'll see you again tomorrow afternoon