Playing with Numbers:
K-1 Hands-On Math from the Chicago Children's Museum

Ramona Richards
Education Programs Manager

Birth-to-Third Grade (B-3) Continuity Conference

10:00 AM Thursday, June 14th

CHICAGO CHILDREN'S MUSEUM

Introductions

Session Objectives

→ Understand the mission and motivations behind our museum-based professional development *Playing with Numbers.*

→ Connect math to the real world through children's literature.

→Engage in age-appropriate, FUN, hands-on math activities.

Why *Playing with Numbers?*

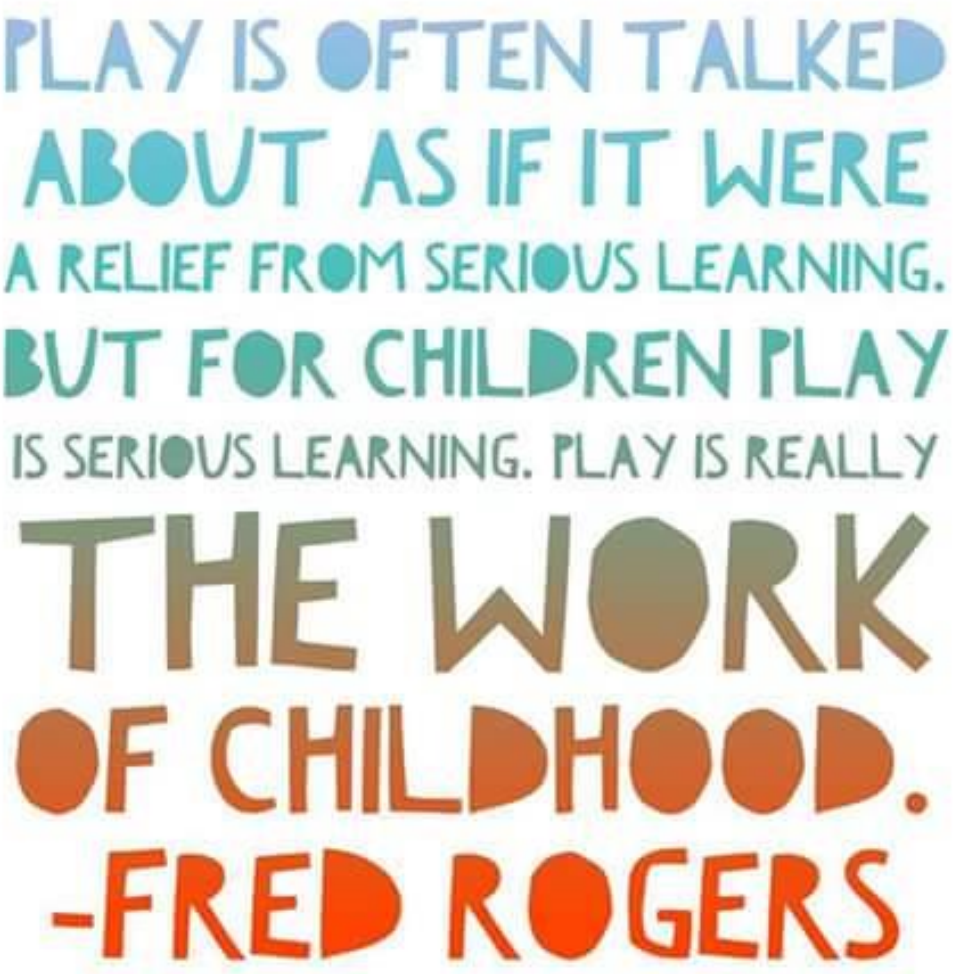
- Early math is a predictor of achievement
- Marginalized populations
- Math anxiety for early educators

Our CCM Mission:

To improve children's lives by creating a community where play and learning connect.

Inform, Inspire, Enable:

Empower adults to understand and extend play and learning experiences for children beyond the museum's walls.


PLAY IS OFTEN TALKED
ABOUT AS IF IT WERE
A RELIEF FROM SERIOUS LEARNING.
BUT FOR CHILDREN PLAY
IS SERIOUS LEARNING. PLAY IS REALLY
THE WORK
OF CHILDHOOD.
-FRED ROGERS

What is *Playing with Numbers?*

CONTENT	COLLABORATION	REFLECTION
hands-on materials	school teams	PLCs
conceptual knowledge	PWN cohorts	Reflective Practice
learning trajectories		

math work stations

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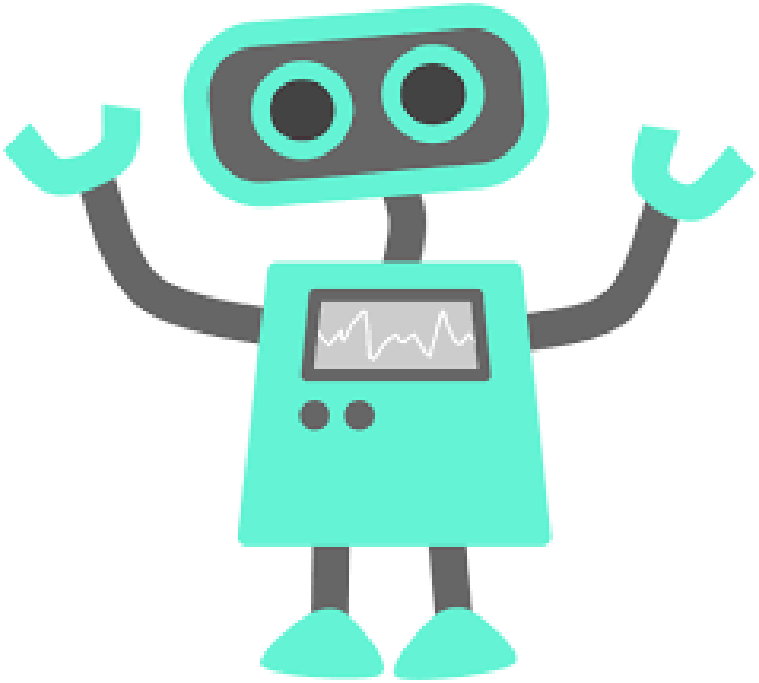
Procedural Knowledge



- Rules
- Procedures
- Algorithms
- Step-by-step

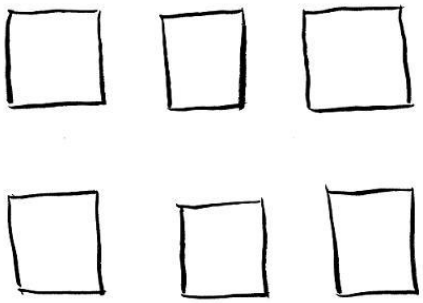
…often learned separate from concepts, and memorized.

Conceptual Knowledge

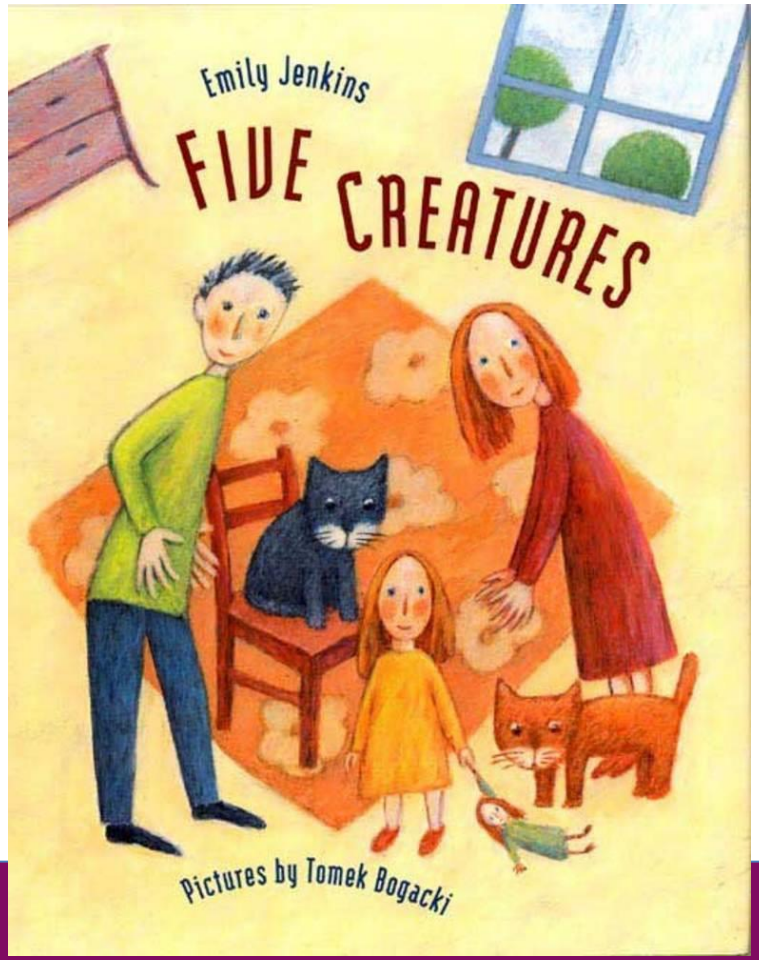
- Focus on relationships
- Interconnected
- Synthesizes old and new knowledge
- Multiple paths to solutions
- Uses reasoning

Trajectory of Learning

CONCRETE → PICTORIAL → SYMBOLIC



Utilizing Literature in Mathematics



Explicit mathematical concept

Includes a mathematical problem

Supports big ideas in math

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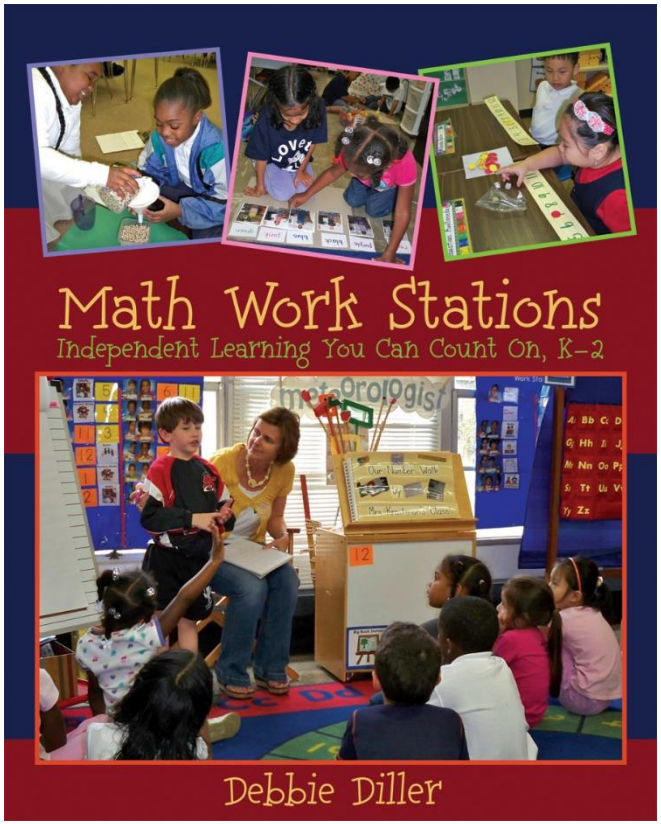
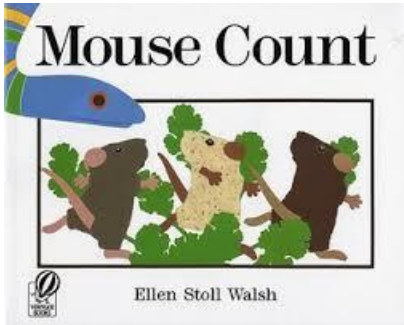
Math Work Stations



- Exploratory, open-ended
- Increase learner independence
- Increase academic talk
- Focus on a specific math concept
- Opportunities to differentiate
- Fun!

Let's Try It Out!

- Counting & Cardinality
  - *Mouse Count*
- Operations & Algebraic Thinking"
  - Bears in a Cave"
- Geometry
  - MagnaTiles



Debrief & Conclusion

→ What did you notice while you were at play?

→ How do you think you could apply this in your teaching?

→ Did you have any “aha moments” today?

→ Questions and comments?

Thank you!

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