

**OBJECTS, ACTIVITIES, AND
INTERACTIONS:
SUPPORTING EARLY
MATHEMATICAL
DEVELOPMENT**

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OVERVIEW

- Why early mathematics?
- What is early mathematics?
- What are environmental arrangements?
- Research to practice examples
 - Three dimensional solids to promote geometry
 - Using Five Frames to promote number sense
 - Shared book reading to increase teacher math talk

WHY EARLY MATHEMATICS?

- Differences in math skills begin to emerge as early as three years old.
- Math skills at KINDERGARTEN entry are the strongest predictors of later success in both mathematics AND reading.
- Children are capable of learning more in mathematics than they were 50 years ago.



WHAT IS EARLY MATHEMATICS? NUMBERS AND OPERATIONS



WHAT IS MATHEMATICS? GEOMETRY AND SPACE



WHAT IS MATHEMATICS? MEASUREMENT



ENVIRONMENTAL ARRANGEMENTS

PHYSICAL ENVIRONMENT



PROGRAMMATIC ENVIRONMENT



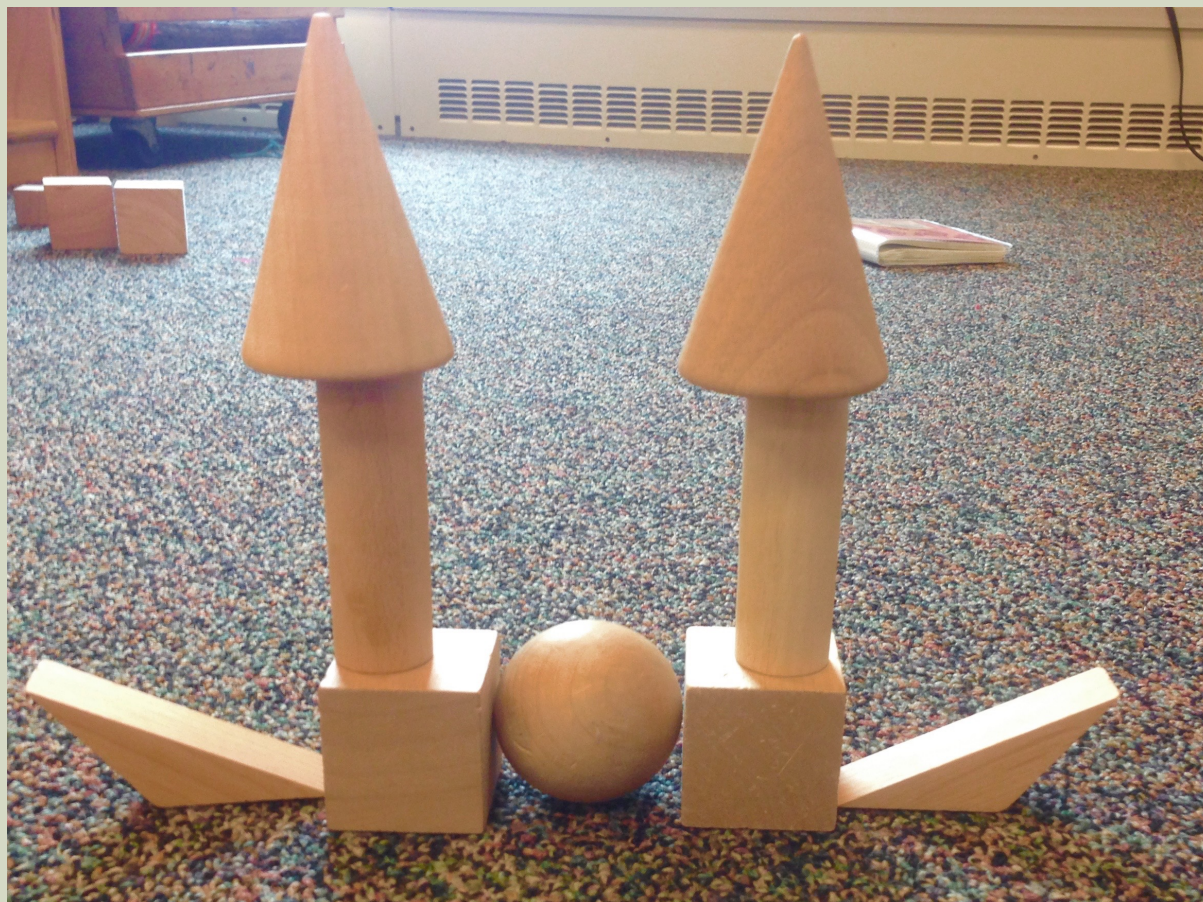
SOCIAL ENVIRONMENT



RESEARCH TO PRACTICE EXAMPLES

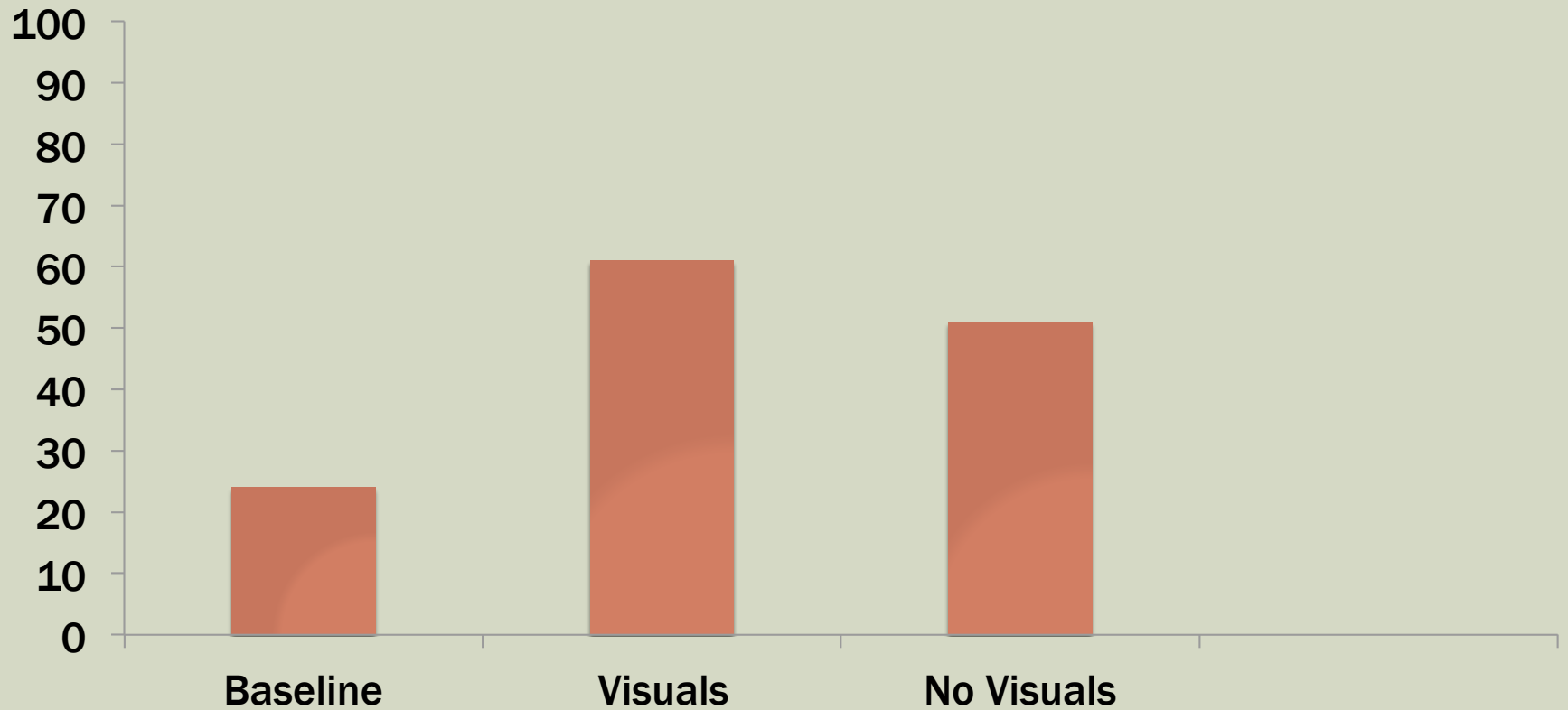
OBJECTS

GEOMETRIC SOLIDS IN THE BLOCK AREA



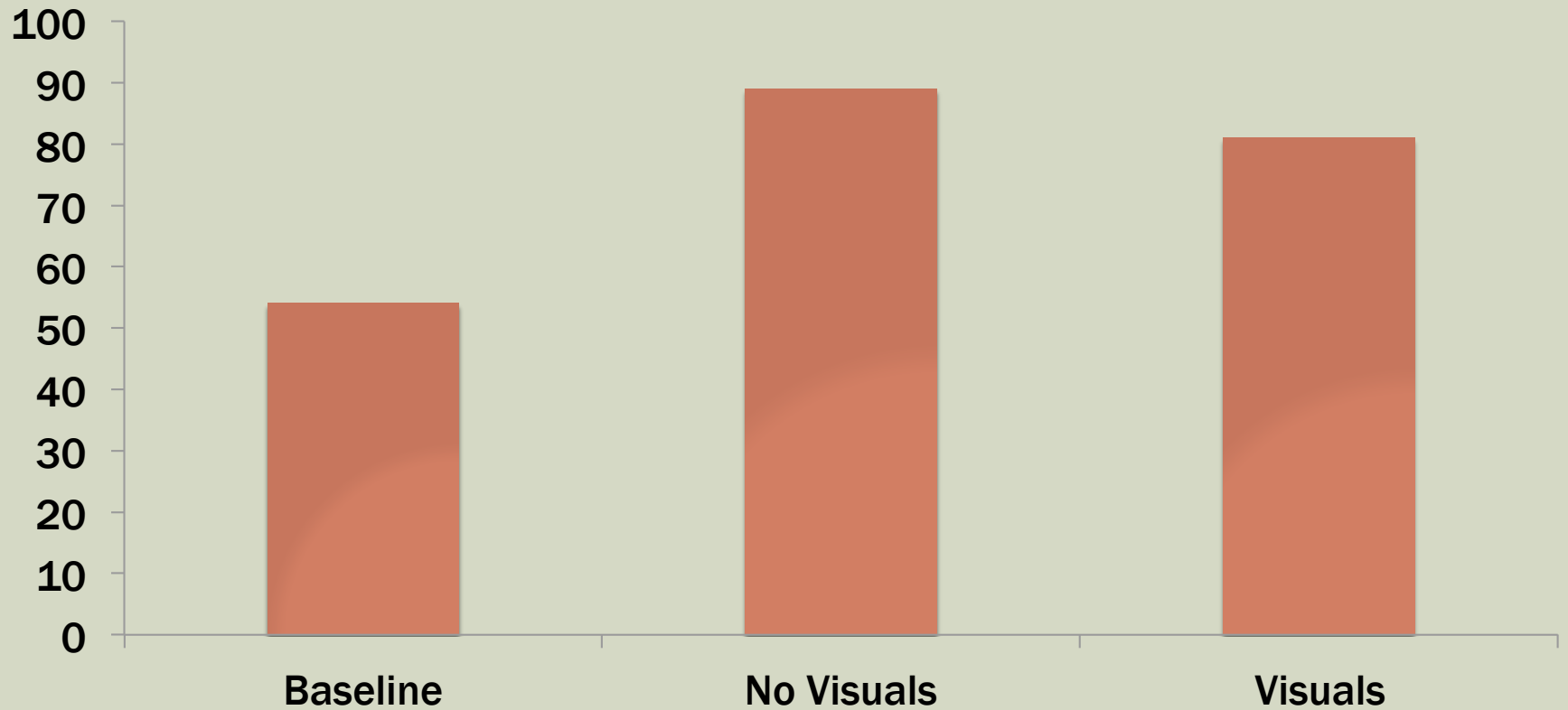
OBJECTS INCREASING ENGAGEMENT

Engagement



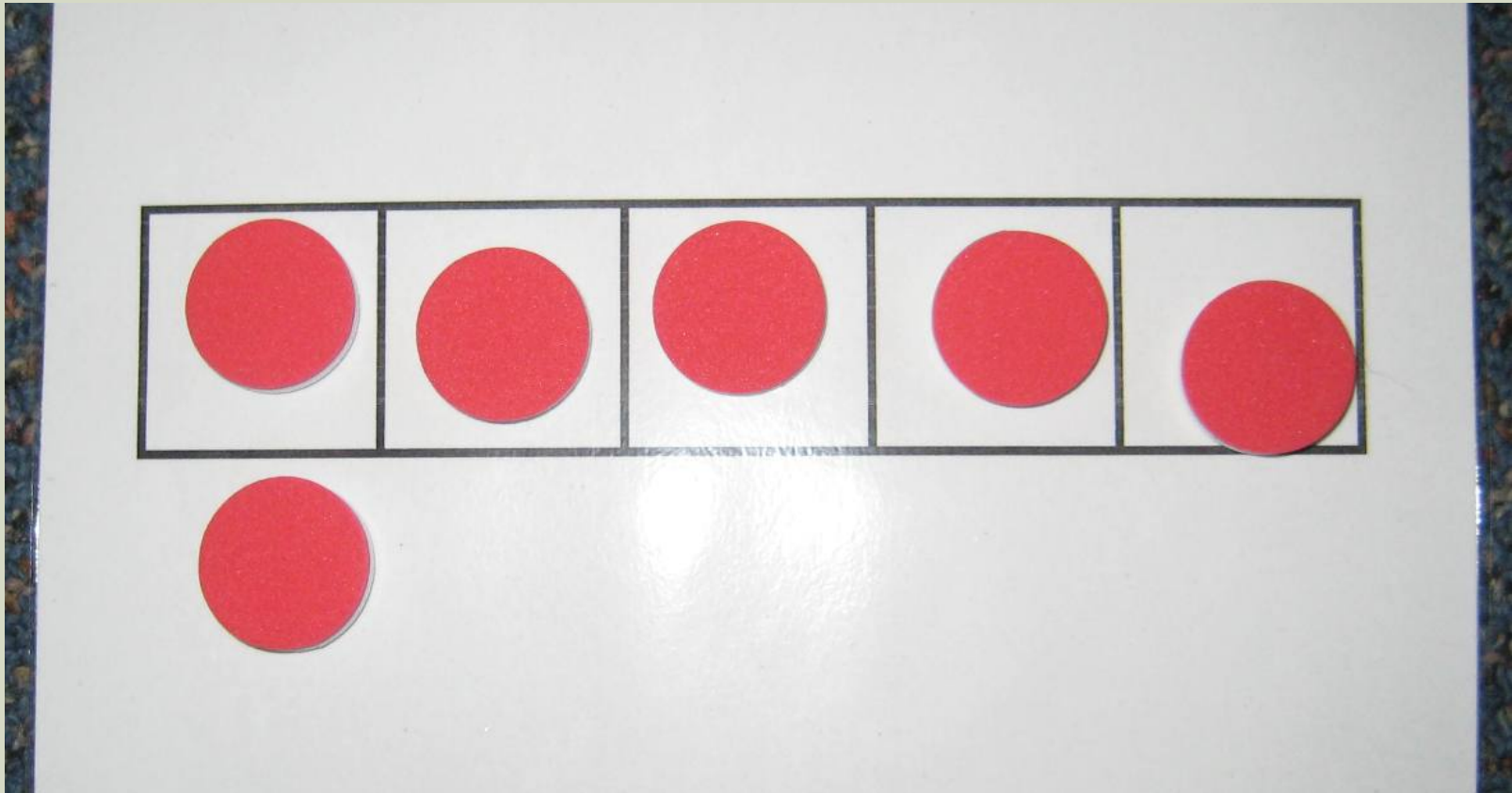
OBJECTS INCREASING ENGAGEMENT

Engagement

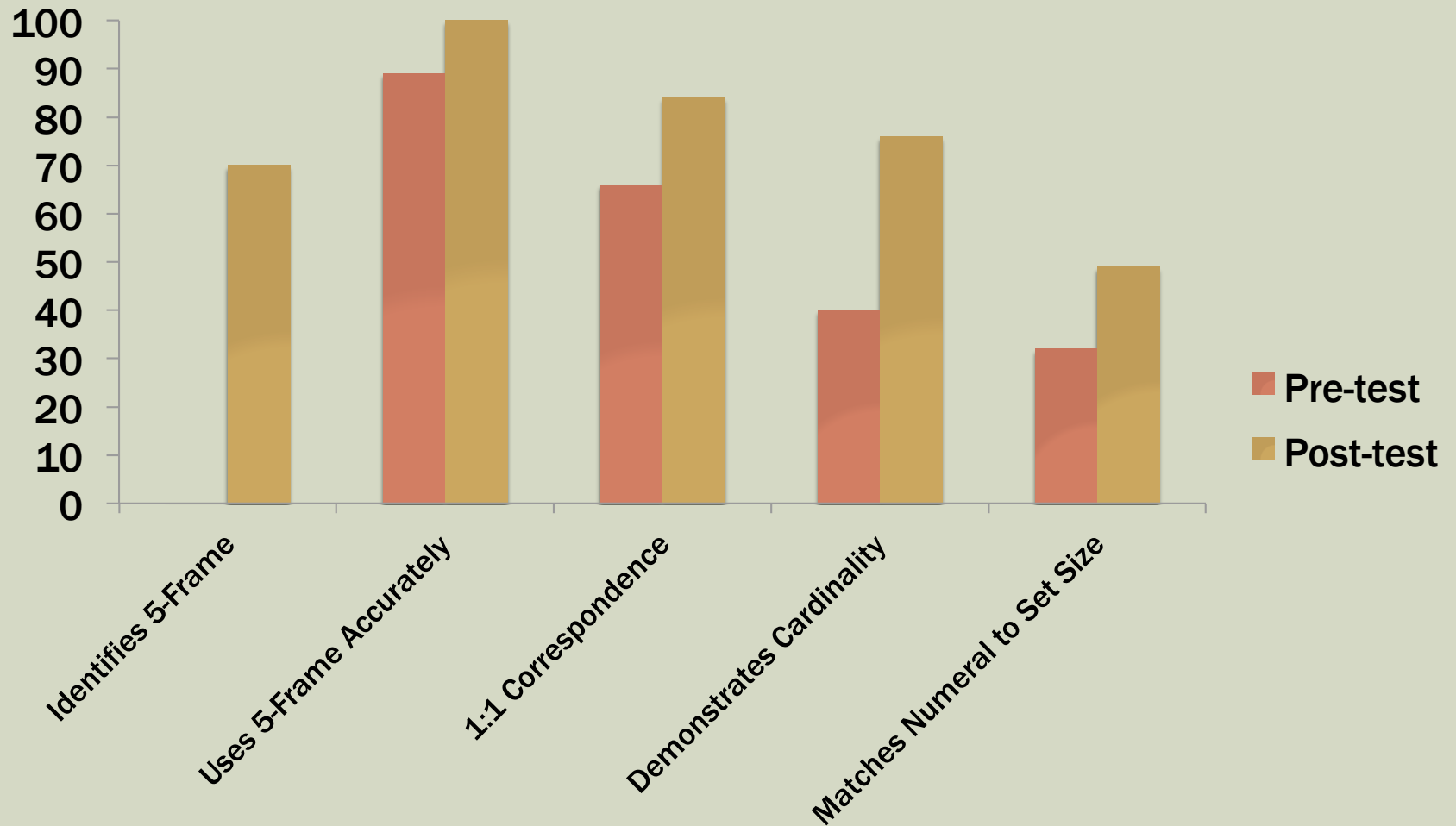


ACTIVITIES

FIVE FRAMES

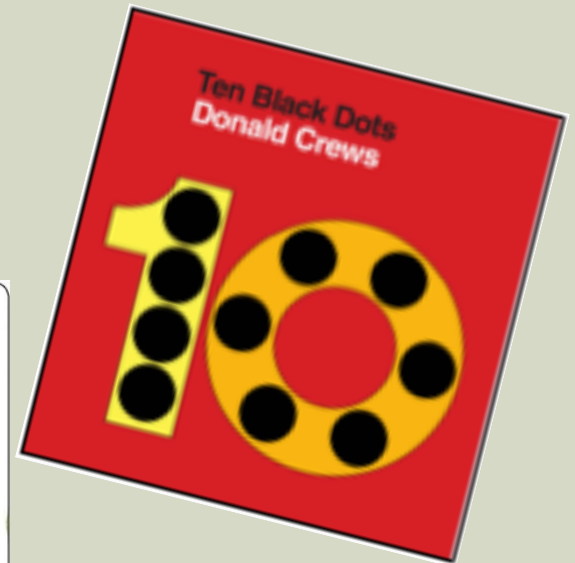
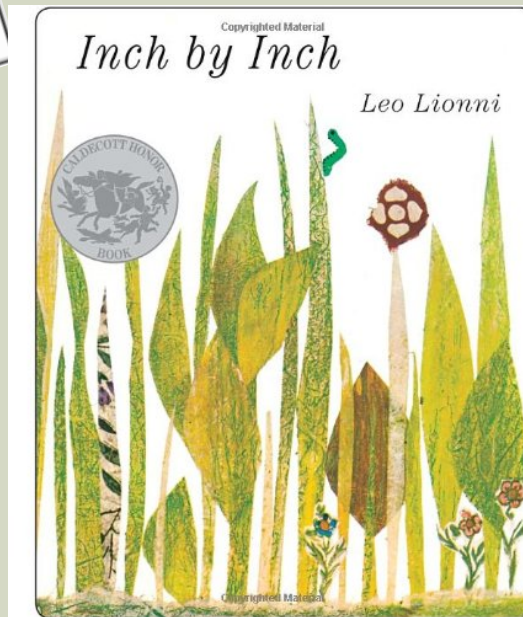
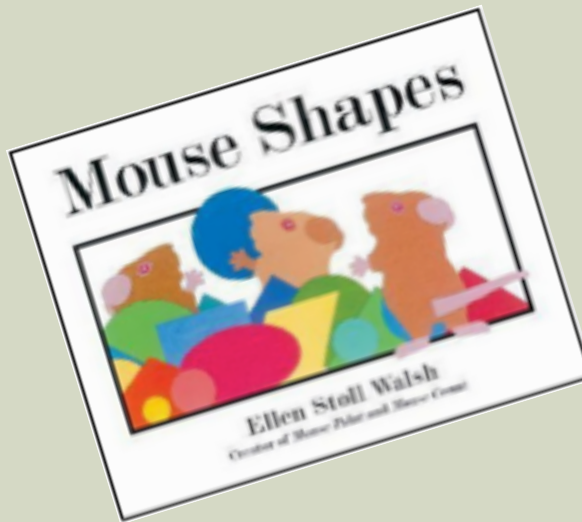


USING FIVE FRAME TO BUILD NUMBER SENSE

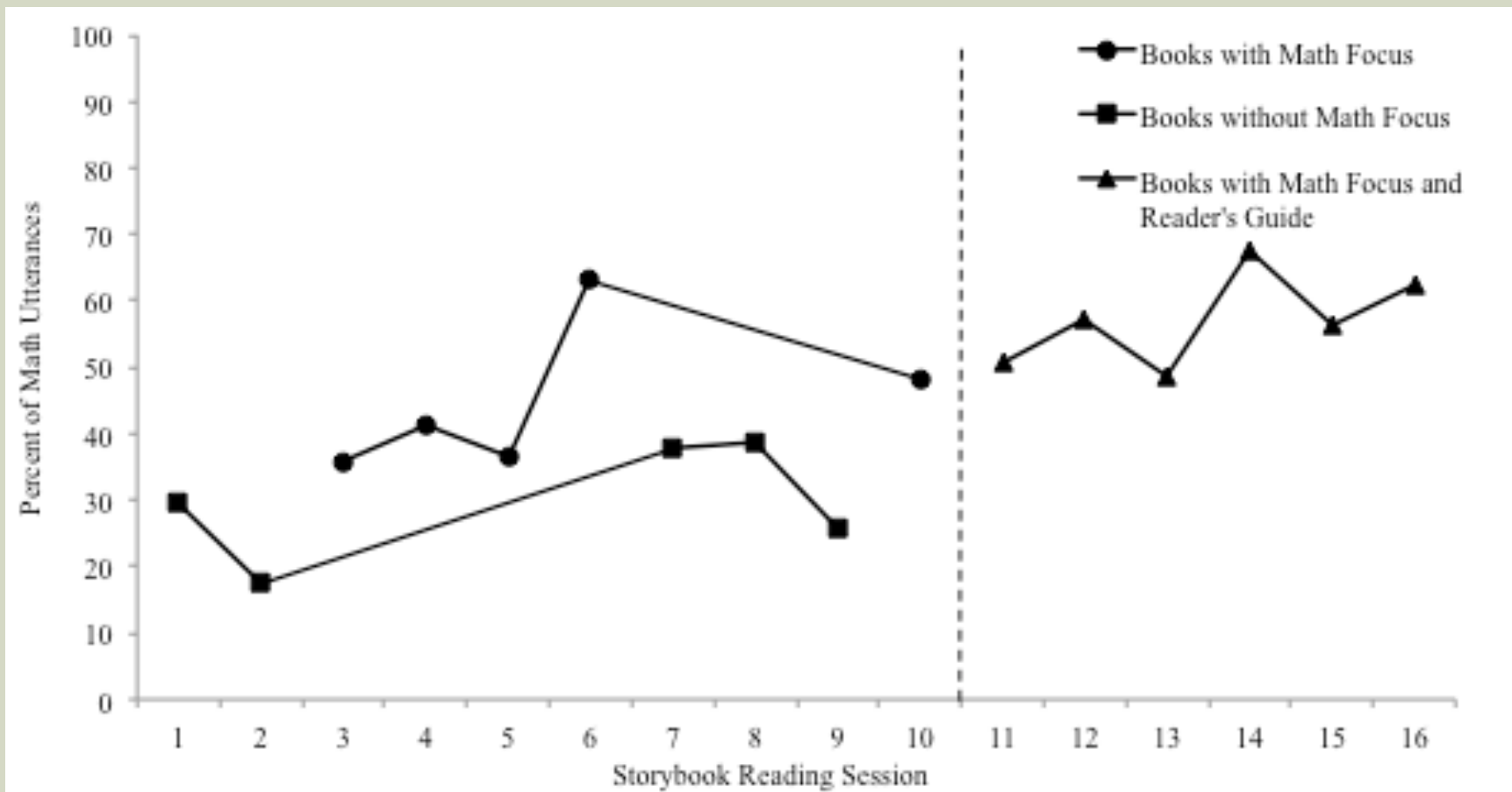


INTERACTIONS

SHARED BOOK READING



TEACHER MATH TALK DURING SHARED BOOK READING



SUPPORTING EARLY MATH IN PRESCHOOL CLASSROOMS

- Consider learning trajectories
- Identify the target skill
- Develop a way to measure the target skill
- Link instruction to the target skill
- Measure repeatedly
- Make changes as needed

IN CLOSING...

- Thoughtful
- Strategic
- Intentional
- Informed