

Setting the Stage for Mathematics Reform



Mathematics understanding is critical for children before entering elementary school because it predicts later academic achievement in mathematics and other subjects. Children who begin school with poor math skills typically do not catch up. Those least prepared are disproportionately minorities and low-income children. Spending time on mathematics only during calendar time is not a strong way to develop math concepts.

With the adoption of Common Core State Standards (CCSS), early childhood educators must teach mathematics “longer and better.” This Curricular Theme is devoted to mathematics reform efforts for preschool through early elementary school. A future Curricular Theme will emphasize promising practices in teaching number concepts.

Summary of Children’s Development and Need for Mathematics Instruction:

Participants of two conferences, organized by UC Berkeley and Stanford University, provided information about children’s development and their critical need for quality mathematics instruction. [Click here](#) for more information.

Research for CKA Members:

- For a review of recent research, [click here](#).
- For a newsletter article on mathematics reform (useful for administrators and teachers), “Why Early Math Matters” by Dr. Linda Platas (who will be a Transitional Kindergarten Strand presenter at the 2013 PK1 Conference), [click here](#).
- Belle Akers offers tips on using literature to teach mathematics concepts in her journal article, [Exploring Math Concepts with Children’s Books](#). To access the full article and the study guide questions for your Professional Learning Community, [join CKA](#).

Preschool, Transitional Kindergarten and Traditional Kindergarten, and First Grade activities and lesson plans:

- [Preschool examples](#)
 - Measuring
 - Puzzles
 - One-to-One Correspondence
- [Transitional kindergarten examples](#)
 - Counting & Categorizing
 - Patterns

- [Kindergarten examples](#)
 - Daily Routine
 - Insect Study & Mathematics Concepts
 - Art Lesson on Butterflies
- [First grade examples](#)
 - Reminders for Teachers of English Language Learners
 - Leave It Out
 - Groups



Resources: By utilizing quality resources, teachers can choose learning experiences and materials to help children reach outcomes appropriate for their age and developmental stage. Resources include:

- [Common Core State Standards](#)
- a [PowerPoint](#) from the California Department of Education for teachers' overview of Common Core State Standards and how they differ from previous California mathematics standards [Preschool Learning Foundations](#)
- a list of classroom [math centers](#)
- a [letter to parents](#)
- [literature to teach mathematics](#)
- [a classroom poster](#) to inform administrators and parents about the importance of mathematics for young children
- [print and media resources](#).

Videos: Two video clips offer excellent examples of young children involved in developmentally appropriate mathematics activities.

- Teaching Channel - [Early Childhood Education: Teaching Math in Young Students](#) – A series of videos which model problem-solving, higher order thinking skills, active, engaged learning and various mathematics concepts for young children.
- Teaching Channel – [Early Childhood Math: Building Confident Problem Solvers](#) – While produced in the UK, the video shows young children learning and practicing mathematics in active, engaging ways.