

Reference List

Siegler, R. S., & Ramani, G. B. (2008). Playing linear numerical board games promotes low-income children's numerical development. *Developmental Science, Special Issue on Mathematical Cognition, 11*, 655-661.

This article demonstrates the results of two experiments designed to reveal children's numerical knowledge. Experiment 1 indicated that the numerical magnitude knowledge of preschoolers from low-income families lagged behind that of peers from more affluent backgrounds. Experiment 2 indicated that playing a simple numerical board game for four 15-minute sessions eliminated the differences in numerical estimation proficiency.

Bobis, J. (2007). The empty number line: A useful tool or just another procedure? *Teaching Children Mathematics, April*, 410-413.

This paper introduces the idea of the empty number line (ENL) as a visual representation for recording and sharing students' thinking strategies during mental computation. Bobis describes how the empty number line can be used to help children move away from meaningless manipulations of algorithms, but cautions against using the empty number line as a rigid application of just one tool or procedure.

Battista, M. (2006). Understanding the development of students' thinking about length. *Teaching Children Mathematics, October*, 140-146.

This article describes assessment tasks and a conceptual framework that can be used to understand elementary school students' thinking about the concept of length.

Levine, S.C., Kwon, M., Hutterlocher, J., Ratliff, K.R., & Dietz, K. (July 2009). Children's understanding of ruler measurement and units of measure: A training study. In N.A. Taatgen and H. van Rijn (Eds.), *Proceedings of the 31st Annual Cognitive Science Society* (pp. 2391-2395). Amsterdam, The Netherlands: Cognitive Science Society.

This paper examines how measurement links the abstract world of number to the concrete world of objects. It demonstrates the benefits of instruction that compares aligned and misaligned ruler measurements and coordinates the use of discrete units with unit markings on a ruler.

Kamii, C. (2006). Measurement of length: How can we teach it better. *Teaching Children Mathematics, October*, 154-159.

Kamii argues for a shift in our approach to teaching measurement to young children. Rather than have children practicing measurement by making direction comparisons (e.g., comparing the size of two pencils by lining them up side to side), emphasis should be placed on having children measure objects that cannot be compared directly. Children should be taught to think logically about measurement, and learn to use measurement tools (both standard and non-standard) in ways that allow for creative and accurate judgments concerning the relationship between two or more objects.

