



## BOOKS

Clements, D. H., & J. Sarama. 2014. *Learning and Teaching Early Math: The Learning Trajectories Approach*. New York, NY: Routledge.

This book describes the learning trajectory approach to teaching young children mathematics. Chapter 3 specifically deals with verbal and object counting. It describes the developmental progression and shares activities at each level. Chapter 16 discusses instructional practice and pedagogical issues and addresses formative assessment, differentiation, and ways to respond to errors.

## ARTICLES

LeeKeenan, D., & I. C. Ponte. 2018. “Meaningful Assessment and Documentation: How Directors Can Support Teaching and Learning.” *Young Children* 73(5): 87-92.

This article describes the importance of assessment and shares how directors can support teachers as they conduct authentic assessments. It shares strategies to help create a culture of documentation and tips that ease documentation.

Goldenberg, E. P., S. J. Miller, C. J. Carter, & K. E. Reed. 2017. “Mathematical Structure and Error in Kindergarten.” *Young Children* 72(3): 38-44.

This article describes how children’s mathematical errors provide insight into their thinking. It discusses errors in the context of mathematical structure and helps education staff decide when and how to respond to errors.

## WEB RESOURCES

Learning and Teaching with Learning Trajectories

[www.LearningTrajectories.org](http://www.LearningTrajectories.org)

Learn about how children think and learn about mathematics and how to teach mathematics to young children “their way” (birth to age 8). LT<sup>2</sup> allows teachers, caregivers, and parents to see math’s learning trajectories. Adults can view short video clips of classroom instruction and children working on math problems in a way that clearly reveals their thinking.

Overview of Formative Assessment

<http://prek-math-te.stanford.edu/overview/overview-formative-assessments>

This online article introduces formative assessment and shares why it’s important for those teaching young children.

ECLKC: Ongoing Child Assessment

<https://eclkc.ohs.acf.hhs.gov/child-screening-assessment/article/ongoing-child-assessment>

The Head Start Early Childhood Learning & Knowledge Center features other resources to help education staff conduct assessments and use it to inform instruction.

ECLKC: News You Can Use: Supporting Early Learning for Infants and Toddlers

<https://eclkc.ohs.acf.hhs.gov/school-readiness/article/news-you-can-use-supporting-early-math-learning-infants-toddlers>

This resource includes information for staff about teaching young children math skills. It includes sections on the development of children’s counting. It also helps staff conduct formative assessment of children’s counting. Other modules provide the same information for other math domains (Spatial Relations, Operations, Patterns & Algebra, and Measurement & Data).

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## VIDEOS

If you are interested in viewing videos of children's development and activities that support counting, the Learning and Teaching with Learning Trajectories tool houses many videos that show viewers what each developmental step looks like. This free web resource also includes instructional activities for small and whole groups. The following videos are samples from the Learning and Teaching with Learning Trajectories website.

### Corresponder

<http://learningtrajectories.org/trajectory/counting/corresponder>

The children in the videos maintain one-to-one correspondence between counting words and objects, saying one word while pointing to each object.

### Counter to 10

<http://learningtrajectories.org/trajectory/counting/counter-10>

The child in this video accurately counts ten objects and demonstrates an understanding of cardinality by answering the question, "How many are there all together?"

### Cookie Game Instructional Video

<http://learningtrajectories.org/activity/cookie-game-2>

A teacher leads the children through a game in which they roll dice to see how many chips they put on their cookie.