

## Intervention Name: ROOTS

### Common Core State Standards Domain Areas: (check all that apply)

Counting and Cardinality (K)	Operations and Algebraic Thinking (K-5)	Numbers and Operations in Base Ten (K-5)	Numbers and Operations – Fractions (3-5)	Measurement and Data (K-5)	Geometry (K-HS)	Ratios and Proportional Relationships (6-7)	The Number System (6-8)	Expressions and Equations (6-8)	Statistics and Probability (6-HS)	Functions (8-HS)	Number and Quantity (HS)	Algebra (HS)	Modeling (HS)
X	X	X											

### Setting: (check all that apply)

Whole-class	Small-group	Individual
	X	

### Focus Area: (check all that apply)

Acquisition	Fluency	Generalization
X	X	X

**Function of Intervention:** ROOTS is a small-group tutoring program for kindergarten students experiencing mathematics difficulty. With ROOTS, students participate in 50 lessons focused on developing number sense to help improve understanding of kindergarten mathematics numbers and vocabulary. ROOTS is designed as a supplement to core instruction.

**Brief Description:** A tutor tutors small-groups through 50 lessons focused on topics related to counting and cardinality, number operations, and place value. During each lesson, 4 or 5 explicit instructional activities occur.

### Procedures:

- **Duration:** ROOTS lasts for approximately 20 weeks with 2 to 3 sessions each week. ROOTS occurs during the second half of the kindergarten school year. Each ROOTS session lasts approximately 20 minutes.
- **Teacher training:** Tutors must participate in professional development workshops focused on explaining ROOTS tutoring.
- **Instructional practices:** Teachers work with in small groups of 4 to 5 students. Students work on lessons about (a) Counting and Cardinality, (b) Number Operations, and (c) Base Ten and Place Value. For each lesson, the teacher models and demonstrates content, and students practice the content with specific feedback provided by the teacher. The primary instructional practice is teaching using an explicit and systematic approach. This approach permits teachers to target specific mathematics content that may be difficult for students, and teacher can use the explicit and systematic instruction to provide a strong foundational core for students at-risk for mathematics difficulty.
- **Monitoring system:** No report of a monitoring system.

**Critical Components (i.e., that must be implemented for intervention to be successful):** Teachers must implement ROOTS with fidelity. Teachers must be prepared to teach each lesson, engage students in the materials, and provide appropriate feedback.

**Critical Assumptions (i.e., with respect to prerequisite skills):** Kindergarten students require additional intensive support. ROOTS focuses on teaching students early numeracy skills, so few prerequisite skills are necessary.

**Materials:** Tutors must use the ROOTS scripts. See [ctl.uoregon.edu/research/projects/elm/lesson\\_sampler](http://ctl.uoregon.edu/research/projects/elm/lesson_sampler) for more information.

### References:

Clarke, B., Doabler, C., Smolkowski, K., Baker, S., Fien, H., & Strand Cary, M. (2011). Examining the efficacy of a tier 2 kindergarten intervention report (Technical Report 1104). Eugene, OR: University of Oregon.

[dibels.uoregon.edu/docs/techreports/ROOTS\\_TechRpt1104.pdf](http://dibels.uoregon.edu/docs/techreports/ROOTS_TechRpt1104.pdf)

For more information on ROOTS, [www.intensiveintervention.org/chart/instructional-intervention-tools/12879](http://www.intensiveintervention.org/chart/instructional-intervention-tools/12879)