# A Developmental Approach to Teaching Numeracy, Grades K-5



July 25 - July 28, 2016 9:00 AM – 4:00 PM Daily CESA 8 Office

### **Course Objectives:**

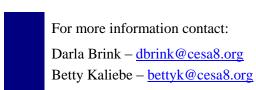
- Gain understanding of the developmental progression of learning for addition, subtraction, multiplication and division.
- Overview of CCSS including both content and practice standards.
- Analysis of teaching resources and the approaches being used in the lessons to teach numeracy.

#### **Teachers will:**

- Deepen and refine their mathematics content background in teaching and developing numeracy.
- Investigate the CCSS in order to effectively plan standard-based lessons.
- Increase their knowledge of designing cognitively demanding tasks and activities that are rigorous and engaging.
- Recognize how children develop numeracy in a student-centered environment that includes mathematical discourse, social-interactions with other students, invented strategies, and using models and tools for learning.
- Develop systems to monitor student progress through the use of formative assessment tasks.

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## **Description**

This course will focus on enhancing the teacher participants' knowledge base and the quality of their instruction through developing a thorough understanding of the development of numeracy, designing instruction to meet the needs of their students, becoming competent in the recognition of student misconceptions and understanding the ways in which students learn mathematics. Teachers will engage in activities and discourse as learners and reflect as they grow and change as professionals. The course will consist of 4 full days. Each teacher will have the opportunity to experience multiple approaches to teaching addition, subtraction, multiplication and division. Throughout the course, teachers will analyze current instructional resources being used to teach the CCSS, explore supplemental resources to support student growth and development in all stages of numeracy and explore the components of Guided Math instruction to best deliver differentiated instruction.



www.tagxedo.com

Instructor: Melissa Goodacre
Educational Resource Specialist and Math
Instructional Coach

### Methodology

This class will include the following:

- hands-on learning
- cooperative group work
- reflective learning responses
- participation with other class members and instructors
- reading of text and other publications

#### **Course Overview**

#### Day 1 Overview and Activities:

Teachers and instructional leaders will build understanding of what standards-based instruction is, familiarize themselves with CCSS for Number and Operations in Base Ten and Operations and Algebraic Thinking and gain understanding of mathematics as conceptual understanding. We will explore the developmental progression of how students learn addition and subtraction and build fluency and secure place-value understanding. Teachers will be taught a variety of strategies to build understanding. The afternoon of Day 1 will be dedicated to planning instructional lessons and activities to support the growth of students at all levels of development in addition and subtraction of whole numbers.

#### Day 2 Overview and Activities:

Day 2 will look very similar to Day 1 with the shift of focus to multiplication and division. Teachers at all grade levels will benefit gaining understanding of the development of numeracy in all four operations so that they can intervene and enrich learners within their classrooms. We will explore developmental appropriate activities to support fluency of multiplication and division of single and multi-digit numbers. Building fluency is much more than rote memorization of facts and Day 2 will support teachers with resources, tools and activities to teach the concepts and strategies for multiplication and division.

#### Day 3 Overview and Activities:

Day 3 will build upon the content learned in Days 1 and 2 through the investigation of instructional activities to support student learning and understanding of numeracy and fact fluency. The first half of the day will be spent as a make and take workshop for teachers to create, organize and plan instructional activities and lessons appropriate for their grade level needs. The resources and activities introduced and modeled in Days 1 and 2 will give participants an idea what materials will be needed. The second half of the day will focus on formative assessment practices FOR learning and explore organizational systems and practices to efficiently monitor student progress.

#### Day 4 Overview and Activities:

The focus for the last day of the workshop will be the use of Math Talk, planning differentiated instruction, exploring the components of Guided Math and Math Workshop. Teachers will select a lesson or activity to tier and/scaffold to meet the needs of a variety of developmental levels. Through modeling and cooperative group work, teachers will develop expectations and a rubric to implement effective math talk practices in their classroom. The workshop will conclude by exploring and discussing the components of Guided Math instruction and components of running a math workshop to meet the individual needs of students. The main outcome of the day will have teachers evaluating and analyzing the ways in which their current instructional resources support the development of numeracy and have a plan for what each teacher's math block of instruction will look like for the coming school year.

**Cost:** \$300.00 per person for 2016-17 CESA 8 CIA or Literacy Center Member School Districts.

\$500.00 per person for all other participants

Register online at www.myquickreg.com.