

## Counting on Number Sense

with Sue Looney

Counting on Number Sense provides an opportunity to learn the foundation of counting in a way that is not just memorizing the sequence of numbers. PreK-1st grade educators will learn how to help kids build connections between numbers as they learn to count. Topics will include developing counting with an eye toward building number sense, pitfalls of learning to count, observing students, subitizing, and counting up to 100.

### Based upon the research findings in:

- Andrews, A., Trafton, P., (2002). *Little Kids Powerful Problem Solvers*. Portsmouth, HN: Heinemann.
- Bahr, D. & Garcia L., (2010). *Elementary Mathematics Is Anything but Elementary*. Belmont, CA: Wadsworth, Cengage Learning.
- Baroody, A. J., Dowker, A., (2003). *The development of arithmetic concepts and skills: Constructing adaptive expertise*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Carpenter, T. P., Fennema, E., Franke, M. L., & Levi, L., Empson, S. (1999). *Children's Mathematics: Cognitively Guided Instruction*. Portsmouth, NH: Heinemann.
- Clements, D. & Sarama, J. (2009). *Learning and Teaching Early Math: The Learning Trajectories Approach*. New York: Routledge.
- Dacey, D & Eston, R., (2002). *Show and Tell: Representing and Communicating Mathematical Ideas in K-2 Classrooms*. Saucilto, CA: Math solutions Publications.
- Meltzer, L., (2007). *Executive Function in Education: From Theory to Practice*. New York, NY: Guilford Press.
- Huinker, D., Marshall, A., Rigelman, N. Yeh, C., & Barnes, D. (2020). *Catalyzing Change in Early Childhood and Elementary Mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- Storeygard, J. (2012). *Count me In! K-5*. New York, NY: Skyhorse Publishing.
- Van de Walle, J. A. (2013). *Teaching student-centered mathematics: Grades PreK-2*. Boston, MA: Pearson Education Inc.

### Goals/Objectives

The following goals and objectives guide this course. Specifically, participants will have opportunities to:

- Understand how to develop fluency with counting.
- Learn how to help their students become confident problem solvers as they use counting in meaningful ways.
- Encourage their students to think like a mathematician as they unlock the power of counting as the foundation of numeracy and problem solving.

Specifically, the course will address the following concepts:

The stages of counting including Verbal Counting, Object Counting, and Cardinality. Additionally, the course will explain the concepts of conservation of number and subitizing, and how these ideas connect to form a deep understanding of counting.

The course begins with how students develop understanding of the numbers 1-10 and moves onto two-digit numbers, highlighting the role of language acquisition and its complexity as it relates to learning to count. Furthermore, the course will explore the connection between counting and problem solving, and reinforce how counting undergirds all further learning of mathematics concepts.

By viewing and analyzing video of students counting, participants will learn how to identify stages of counting, and how to plan appropriate activities for students based on evidence. They will explore assessments, tools and tasks that all foster deep understanding of counting in order to help students develop a foundation of strong number sense.

### **Grading/Course Completion**

The online program tracks your progress. In order to receive credit and/or a course completion certificate, you need to complete the course materials within 12 weeks. The course is 15 hours of instructional time. You will earn a Certificate of Completion, but you also have the option to sign up for 1 professional development credit through an accredited college. If you choose that option, you will fill out additional forms and pay \$60 directly to the college.

## Different levels of registration

### 3 Month Access

3 Month Access is best for teachers and math coaches who want to dive into the content right away and start implementing.

You also get access to the private Build Math Minds PD site which houses all the webinars I have done with amazing math educators (like Graham Fletcher, Cathy Fosnot, Dr. Nicki Newton), access to all the Virtual Math Summit sessions, access to the 5 Day Fact Fluency Trainings, and so much more.

In this level you are enrolled in the course for 3 months. The course content is only 5 weeks, so you will have additional time to complete any lessons you didn't do during the 5 weeks.

### 12 Month Access

12 Month Access is best for teachers and math coaches who plan to use the information in the videos throughout the year.

You get all the same stuff as the 3 Month Access, just longer time to access the content. If you want the ability to go back through the content throughout the year, then this level is for you.