

CGI National Conference 2009
Descriptions of Ticketed Sessions – Saturday, August 1, 2009

1) *Counting Collections* (Grades K–2)

Angela Chan (University of California, Los Angeles) & **Susan Suomu** (Santa Monica-Malibu Unified School District)

In this session, we will go in-depth into counting *collections* of objects, a classroom activity designed to develop number sense and place-value understanding through counting. During this session, we will count different kinds of collections, identify student counting strategies, analyze students' written representations, and watch classroom video. Throughout the session, we will unpack and detail the teacher's role in supporting students to count collections, particularly noting the questions teachers ask to elicit and extend student ideas. We will also highlight the mathematical ideas that arise in counting collections and discuss how these connect to CGI problem solving strategies. *Participants with any level of CGI experience are welcome.*

2) *Developing a Deeper Understanding of Place Value* (Grades K–4)

Tanya Vik Blais (Texas Tech University)

Developing place value begins in the early grades and becomes increasingly important to a student's success in mathematics over the years. In this session, we will rethink common place value tasks and consider other effective alternatives. A significant amount of time will be dedicated to identifying CGI problems and specific number choices that will deepen our students' understanding of place value. *This session will be particularly useful to people who are relatively new to CGI.*

3) *Don't Give Up: Place-Value Development Takes Time* (Grades 1–4)

Jeanie Behrend (California State University, Fresno) & co-presenters from Central Unified School District

What do you do when students come from more traditional instruction and can do the standard algorithms, but lack the place-value knowledge to understand what they are doing? How can these students develop place-value knowledge, flexible strategies, and a belief that mathematics makes sense? In this session, we will explore these issues by looking at samples of student work across time. *This session will be most useful to people who have been using CGI for 2 or more years.*

4) *Equal-Sharing Tasks: Connecting Children's Intuitive Thinking to Fraction Concepts* (Grades K–5)

Debbie Junk (Texas Regional Collaboratives at the University of Texas at Austin)

In this session, participants will explore equal-sharing problems that can be used to develop understanding of fractions. Children, as early as Kindergarten, can build on their intuitive ideas of fair shares and whole number relationships to build understanding of fractions. We will solve equal-sharing problems, explore strategies that can be used to solve these problems, and view video-taped sessions featuring

individual children solving problems. Middle grades teachers may also find this information beneficial, since fractions are a major component of the 6–8 curriculum. *Participants with any level of CGI experience are welcome.*

5) *The Equal Sign – The Seemingly Simple Sign That Isn't* (Grades K–5)
Carla Nordness & Annie Keith (*Madison Metropolitan School District*)

What does it mean to understand the equal sign? How does this understanding help children mathematically? During this session, we will discuss the teacher's role in building understanding of the equal sign and facilitating students' ability to generalize this understanding to other areas. Participants will have an opportunity to work in grade-level groups. Join us as we look at the importance of this seemingly simple sign and its relevance to mathematical competence. *This session will be most useful to people who are relatively new to CGI.*

6) *Exploring Mathematical Understandings in Context: Classroom-Embedded Professional Development* (for Professional Developers)
Vicki Barker (Prairie Grove Intermediate School), **Linda Jaslow** (Northwest Arkansas Educational Service Cooperative), & **Laura Kent** (University of Arkansas)

How do you answer the question “What does CGI look like in the classroom?” This session will focus on a professional development approach that helps teachers grapple with teacher decision-making in the context of an actual classroom. During classroom-embedded professional development, participating teachers visit a single classroom to observe a mathematics lesson, then spend time outside of the classroom discussing what happened, analyzing student work, and developing learning goals and next steps based on that work. The teachers then return to the classroom to watch the classroom teacher facilitate a mathematical discussion centered around these predetermined goals and tasks. In this session, we will conduct a modified form of the classroom-embedded process using specially designed protocols to help teachers (a) examine student work, (b) develop learning goals based on that work, and (c) carefully select problem types and numbers. In addition, we will discuss the benefits and logistics of this professional development approach to facilitate mathematical discussions centered around predetermined learning goals.

7) *The Role of Mathematical Notation in Developing Relational Thinking*
(Grades 1–6)
Linda Levi (Teachers Development Group)

Mathematical notation is an important tool in developing students' relational thinking. It is challenging to introduce students to mathematical notation that reflects their current understandings and is widely understood. In this session, we will talk about our goals in having students record their mathematical thinking and the types of notation that support these goals. We will also discuss ways to introduce notation to students and ways to help students develop more sophisticated notation to represent mathematical relationships. *This session will be most useful to people who have been using CGI for 2 or more years.*

8) *Teaching and Learning of Multidigit Multiplication and Division* (Grades 3–6)
Jae M. Baek (Illinois State University)

In this session, participants will focus on how children make sense of multidigit multiplication and division and what strategies they develop over time if they are encouraged to construct strategies based on their understanding of multiplicative concepts and contexts. Participants will explore different types of children's strategies and how to classify them. We will investigate the underlying mathematics of the strategies and instructional methods to help children develop more sophisticated and fluent strategies. *This session will be most useful to people who have been using CGI for 2 or more years.*

9) *Using Fact Interviews to Assess Students' Basic Fact Knowledge* (Grades 1–5)
Carrie Valentine (Madison Metropolitan School District)

What does it mean to *know* basic facts? Is there a typical trajectory for development of fact knowledge? How can you quickly assess whether your instruction is helping your students use relational thinking for basic facts? In this session, we will investigate these questions and more based on Fact Interviews developed by teachers in Madison, Wisconsin. Fact interviews will be conducted with real children during this session. Materials to use with your students will also be provided. Join this group if you want to break free of timed tests as a means of assessing number sense. *Participants with any level of CGI experience are welcome.*