

## **Helping Students to Reason Mathematically in order to Develop their Problem-Solving skills in Addition and Subtraction**

*Katie Zimmerman*

As a teacher you begin to ask yourself why are so many of our students are lacking addition and subtraction fluency? A lot of it comes back to the “rigor” required of the Common Core State Standards. Too often the students are moved through the expectations without reaching mastery. They are being introduced to the concepts and practice the concepts but then have to move onto the next concept without mastering the addition and subtraction that is required for the next grade level. Through research it has been found that students need to develop quick recall of addition and related subtraction facts, as well as fluency with multi-digit addition and subtraction. A critical step in establishing a deeper understanding is unpacking ideas related to addition and subtraction, for example, addition determines the whole of the parts and subtraction determines the missing part. Two big ideas to consider is when to use each operation and the second is how to get answers efficiently and accurately. My goal for this unit is to help my students to become fluent within addition and subtraction and use that to help them to become stronger problem solvers.