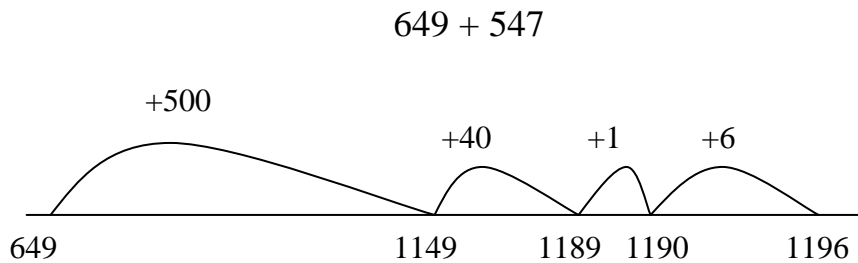


Number Lines



- The open number line aligns with children's invented strategies for addition and subtraction. The number line stimulates a mental representation of numbers and number operations that is powerful for developing mental arithmetic strategies. Students using the empty or unmarked number line are cognitively involved in their actions. The number line is a powerful strategy for developing mental arithmetic strategies.
- Third grade students extend their knowledge of addition and subtraction, building on and justifying the use of place value, formalizing their methods for addition and subtraction, and solving problems in a variety of situations (and including but not limited to the use of standard algorithms). The number line stimulates a mental representation of numbers and number operations while supporting students to:
 - Develop a repertoire of efficient strategies for computational fluency
 - Envision the relationship of one number to another and the magnitude of numbers
 - Use equivalent quantities (composites of fives, tens, hundreds, and ones), and see them as landmarks
 - Apply various addition and subtraction strategies and their relationships
- The strategies students use are a recording of their thought processes and provide useful assessment data regarding the efficiency of students' strategies. Students' solution strategies differ in sophistication and choice of number groupings.