Vertical Progression:

Kindergarten	**K.OA.A Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**
	   ○ **K.OA.A.4** For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
	   ○ **K.OA.A.5** Fluently add and subtract within 5.

1ˢᵗ Grade	**1.OA.C Add and subtract within 20.** ○ **1.OA.C.6** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 − 4 = 13 − 3 − 1 = 10 − 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 − 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
2ⁿᵈ Grade	**2.OA.B Add and subtract within 20**. ○ **2.OA.B.2** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
3ʳᵈ Grade	**3.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic.** ○ **3.NBT.A.2** Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Students will demonstrate command of the ELG by:

- Using mental strategies to add or subtract numbers within 20 with ease.
- Recalling from memory all sums of two one-digit numbers.

Vocabulary:

- compose
- decompose
- difference
- fact families
- fluent

- mental math
- strategy
- subtract/subtraction
- sum
- turn-around fact

Sample Instructional/Assessment Tasks:

1) **Standard(s): 2.OA.B.2**

Source: http://www.k-5mathteachingresources.com/support-files/magic-square-3x3.pdf

Item Prompt: 3 x 3 Magic Square
1) Write the numerals 1-9 on small squares of paper and cut them out.
2) Move the numbers to the spaces on the board so that the sum of each row, column, and main diagonal equals 15.
3) Record your work.
4) Challenge: Is there more than one way to place the numbers so that the sum of each row, column, and main diagonal equals 15?

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2) **Standard(s): 2.OA.B.2**

Source: www.k-5mathteachingresources.com/12nd-grade-number-activities.html

Item Prompt: Near 20

Materials: Numeral cards (1-9)
1) Shuffle a pack of cards and deal five to each player.
2) Each player chooses three cards that add to 20, or as near to 20 as possible, and records the equation.
3) Find your score by calculating the difference between the sum of your cards and 20.

Example: Mario picks the cards 9, 6, and 4 and writes 9 + 6 + 4 = 19. He subtracts 19 from 20 for a score of 1 because 20 – 19 = 1. Lisa picks the cards 8, 9, and 5 and writes 8 + 9 + 5 = 22. She subtracts 20 from 22 for a score of 2 because 22 - 20 = 2.

4) Play ten rounds. At the end of the game add the scores for each player. The player with the lowest total is the winner.