Problem Solving in Second Grade

During first quarter, students are working to become fluent in their combinations that make 10 (1+9, 2+8, 3+7, 4+6, 5+5, 6+4, 7+3, 8+2, 9+1), doubles up to 10+10, and adding one (8+1) or two to a number (4+2). Being able to apply these strategies and utilize their mental reasoning will improve their automaticity.

When solving word problems, students are expected to show their work and explain how they solved the word problem using pictures, numbers, or words. At this point in the year we hope to start moving students away from counting all; we are looking for students to be counting on from the larger number OR using what they know about parts of numbers to solve problems. It is important to build upon each level and create a solid mathematical foundation for your child. Please use the guide below to help your child when solving math homework.

Example problem: There are 15 students in the lunch room. Then 24 more students join them. How many students are in the lunch room?

Counting All: If you notice your child doing this, encourage them to start with the larger number and count on. Counting all would be drawing 15 circles, then drawing 24 circles and counting them all together. With larger numbers this is hard to keep track of and the strategy lends itself to careless errors.

Counting On/Back: Start with the larger number 24, then count on 15 more.

Begin practicing counting on by 1s using the 120 chart on the back 24…25, 26, 27, 28, 29, 30, 31,32, 33, 34, 35, 36, 37, 38, 39

You want to move towards using the 120 chart to practice counting on or back by 10s and 1s (24 plus 10 more is 34, then add 5 ones…)

You may want to practice counting on/back by 10s from any number using the 120 chart to look for patterns – 34 +10 = 44, 44 + 10 = 54, 54+10 = 64. What pattern do you notice?

Parts of a Number:

Break the number apart by 10s and 1s

15 = 10 + 5, 24 = 20 +4

Add the 10s together 10 + 20 = 30

Add the 1s together 5+4 = 9

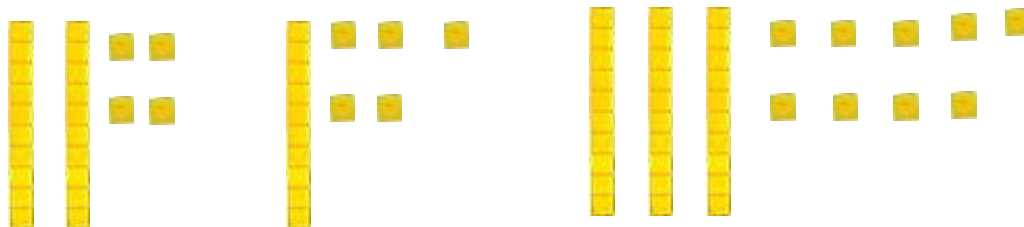Then add 30 + 9 together to get 39

Keep one number whole then add on tens and ones:

24 + 15 = ?

24 + 10 = 34
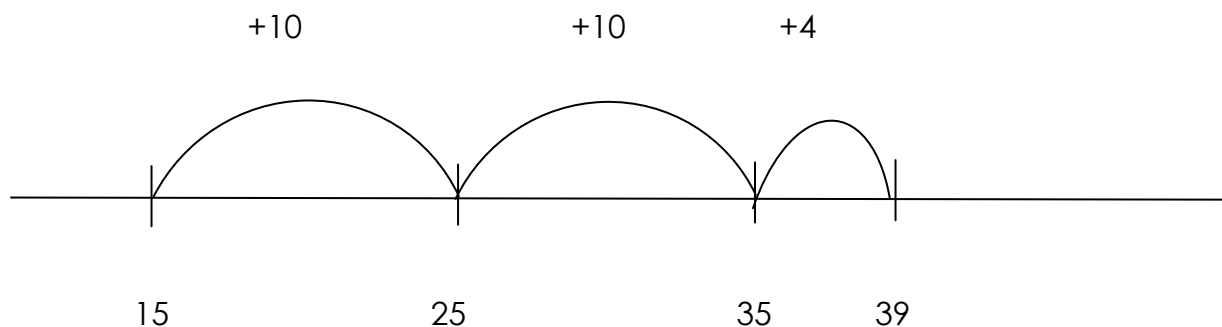
34 + 5 = 39

Draw a model of tens/ones:

24   +   15   =   39

Use a number line to show your thinking (you don't always have to start a number line at 1, you can add on by 1s or by groups, remember to label the number line and what you added/subtracted):

15 + 24 = 39

+10   +10   +4

15   25   35   39

Use a benchmark or landmark number (a multiple of 10 or 100):

15 + ___ = 39

15 + 5 = 20 (this is a benchmark/landmark number) 20 + 10 = 30   30 + 9 = 39

Related Facts:

15 + 24 = ?

15 + 20 = 35   35 + 4 = 39 (5 + 4 is close to the doubles fact 5+5, if 5+5 = 10, 4 is one less than 5, so 4+5 must be one less than 10, which would be 9)

Students should avoid lining the numbers up vertically and adding the ones column and then the tens column. This method does not allow students to build number sense with two and three digit numbers and does not allow students to show their thinking when adding or subtracting numbers.