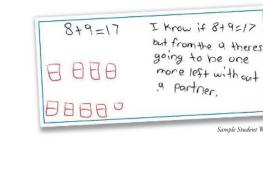**Grade 2**

Unit 8:
Addition, Subtraction, and the Number System

About this Unit

This final number unit of Grade 2 is a culmination of the number and operations work students have done. They continue to compose and decompose numbers up to 1000 and solve addition and subtraction problems within 1000. Students refine their strategies for adding and subtracting numbers as they work toward developing fluency with addition and subtraction of two digit numbers up to 100. They investigate and make generalizations about what happens when you add even and odd numbers. They learn the remaining single-digit addition combinations, achieving fluency with all single-digit addition combinations. Work continues with telling time, place value, and coin combinations.

Adding Odd and Even Numbers

Students focus on reviewing what makes a number even or odd by using partners (making groups of two) and teams (two equal groups). Students determine whether the sum of two addends is odd or even. They will make generalizations about adding 2 even numbers, 2 odd numbers, or 1 even and 1 odd number.

2 teams of 11

11 partners or groups of 2

8 + 9 = 17

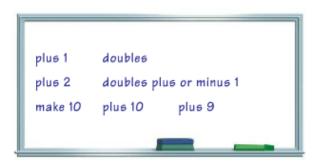I know if 8+9=17 but from the 9 theres going to be one more left without a partner.

Sample Student Work
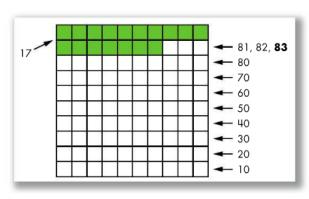
Addition Combinations

Students work with plus 10 combinations. (4 + 10) They use what they know about these combinations to solve other problems. ("I know that 4 + 10 = 14, so 4 + 9 must equal 13 because 9 is 1 less than 10")

plus 1   doubles

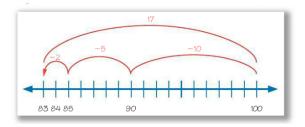plus 2   doubles plus or minus 1

make 10   plus 10   plus 9

Remaining Combinations			
3 + 5	3 + 6	3 + 8	4 + 7
5 + 3	6 + 3	8 + 3	7 + 4
4 + 8	5 + 7	5 + 8	6 + 8
8 + 4	7 + 5	8 + 5	8 + 6

Subtraction

Students subtract from 100 using a variety of strategies.

$$100 - 17 = ?$$

← 81, 82, **83**
← 80
← 70
← 60
← 50
← 40
← 30
← 20
← 10

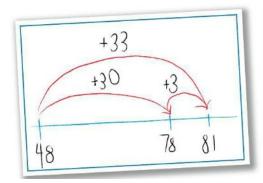This student used the 100 chart to solve the problem.

This student counted back 17 from 100, subtracting 17 in parts.

Addition

Students develop efficient strategies for adding 2-digit numbers.

Kira had 48 balloons. Jake gave her 33 more balloons. How many balloons does Kira have now?

+33
+30   +3
48   78 81

This student used an open number line to record his work. He kept the 48 whole and added on the 33. He used tens and ones to add on the 33.
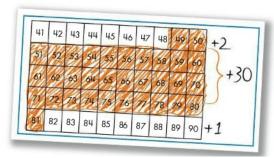
$$48 + 33 =$$

48 + 30 = 78
78 + 3 = 81

48
+30
48 + 30 =   78
+ 3
81

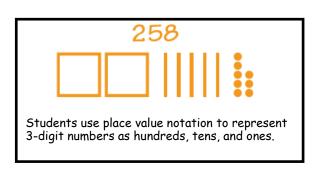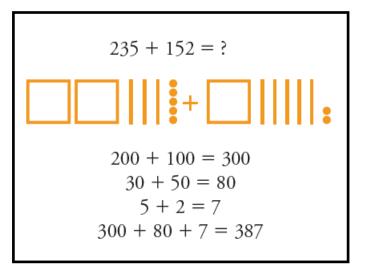This student kept the 48 whole and added on the 33. He used tens and ones to add on the 33.

This student used the 100 chart to record his work. He kept the 48 whole and added on the 33. He used tens and ones to add on the 33.
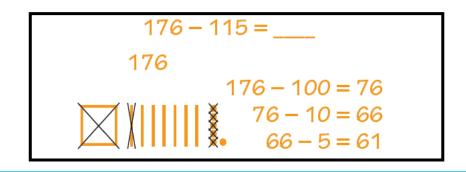
<u>Working with 3-Digit Numbers</u>

Students represent 3-digit numbers using place value models and use the models to add and subtract within 1000.

258

Students use place value notation to represent 3-digit numbers as hundreds, tens, and ones.

$235 + 152 = ?$

$200 + 100 = 300$
$30 + 50 = 80$
$5 + 2 = 7$
$300 + 80 + 7 = 387$

Sally had a collection of 258 star stickers. She decided to give 123 of these stickers to Franco for his collection. How many star stickers did Sally have left?

258

$258 - 100 = 158$

$158 - 20 = 138$

$138 - 3 = \underline{\quad}$

$176 - 115 = \underline{\quad}$

176

$176 - 100 = 76$
$76 - 10 = 66$
$66 - 5 = 61$

<u>Helping Your Child at Home</u>

- Give your child an addition or subtraction number sentence that uses 3-digit numbers and ask them to create a story problem to go with the number sentence.

- Ask addition or subtraction questions while playing or watching sports. For example, what is the score of both teams combined? How many more points does Team A need to equal Team B?

- Have your child choose three numbers from 0-9. Have them write as many 3-digit numbers as they can. Have them represent each number using place value notation and in expanded form.

Visit These Web sites for Interactive Math Activities

- [Odd and Even Game](http://www.softschools.com/math/number_patterns/odd_even_number_game/) (http://www.softschools.com/math/number_patterns/odd_even_number_game/)
  Identify odd and even numbers before learning about adding odd and even numbers.

- [Addition Game](http://www.ixl.com/math/grade-2/add-two-three-digit-numbers) (http://www.ixl.com/math/grade-2/add-two-three-digit-numbers)
  Add up to two 3-digit numbers.

- [Subtraction Word Problems](http://www.ixl.com/math/grade-2/subtraction-word-problems-up-to-three-digits) (http://www.ixl.com/math/grade-2/subtraction-word-problems-up-to-three-digits)
  Solve subtraction word problems up to 3-digit numbers.

- [Addition with Missing Addend](http://www.mathplayground.com/puzzle_pics_addition.html) (http://www.mathplayground.com/puzzle_pics_addition.html)
  Solve missing addends to find the hidden picture.