



SECOND GRADE MATHEMATICS – Unit 1

Dear Parents,

During Unit 1, your child will work on becoming fluent with adding and subtracting within 20. Basic facts for addition refer to all sums of two one-digit numbers. Over time, fluency with number relationships leads to memory of the addition facts and application to subtraction. Fluency is defined as solving facts quickly and accurately without halting, stumbling or reversing oneself.

OPERATIONAL FLUENCY

Students need to:

- Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
- Use addition and subtraction **within (20)** to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
- Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ...

KEY VOCABULARY

- Add:* to join two or more quantities to get one sum
Addend: any number used to get a sum
Data: collection of information
Difference: difference between two numbers (subtraction)
Equal: having the same amount or value
Equality: state of being equal
Equation: mathematical statement containing an equals sign to show that two expressions are equal
Fluent: solving facts quickly and accurately without halting, stumbling or reversing oneself
Fewer: less than
Graph: drawing or diagram used to record information
Inverse Operation: opposite or reverse operations (e.g. addition and subtraction)
Minuend: the quantity that you are subtracting from in a subtraction equation
Minus: to subtract
More: greater than
Number Line: line marked with numbers used to show operations
Number Sentence: mathematical sentence written in numerals and mathematical symbols
Plus: to add
Related Fact: addition and/or subtraction sentences that are alike
Scale: the increment used on a graph
Strategy: a plan, a method or a way to solve a problem
Subtract: to take one quantity away from another
Subtrahend: the quantity subtracted from the minuend in a subtraction equation
Sum: the total or whole amount: the result of addition

WAYS PARENTS CAN HELP

- Keep a set of flash cards in the car to practice as you run errands. Encourage your child to explain the strategy that they used to solve the problem.
- With a deck of cards, use the number cards to play Fact War. Each player flips 1 card and the player to say the sum first, gets both cards
- Have your child sort a set of flashcards based on the strategy that they would use to solve the problem. Have them select one strategy pile to solve.
- Students often overuse “counting on” for all math facts. Help your child to generate facts that are efficient for counting on and facts that are not efficient for counting on (you could create a list or use flashcards to make groups). Encourage your child to explain why counting on would not be efficient for a fact (such as 5+7).

BACKGROUND INFORMATION AND EXAMPLES FOR PARENTS

Addition Using Ten Frames: <http://video.carrollk12.org/view/HEIMUSINGDOUBLETENFRAMESTOSOLVE>

Try the addition crossword puzzle below or make your own. More puzzles can be found at <http://www.mathinenglish.com/menuCrosswordI.php>.

Addition up to 20

1			2		
		3			4
	5			6	
7			8		
		9			10
	11			12	

Across

1. $8 + 8$
2. $7 + 8$
3. $11 + 3$
5. $9 + 4$
6. $12 + 7$
7. $5 + 11$
8. $12 + 6$
9. $11 + 9$
11. $4 + 6$
12. $8 + 6$

Down

1. $5 + 8$
2. $8 + 6$
3. $6 + 7$
4. $11 + 8$
5. $12 + 4$
6. $9 + 9$
7. $6 + 6$
8. $3 + 7$
9. $13 + 7$
10. $7 + 7$