

# First Grade Math

## Learning Goals for 2nd 9 weeks

Skills students should demonstrate at the end of the 2<sup>nd</sup> 9-weeks of school:

### **Unit 5 Addition and Subtraction up to 20**

\* Learning Goal: The student will **model addition by the action of joining** (*sums of whole numbers up to 20*). The student will also use concrete objects and pictorial models to solve addition and subtraction problems (*sums and differences of whole numbers within 20*).

How parents can help:

- ✓ Create with your child an at-home math spiral notebook, he or she can place their math work in this spiral as they work on solving math problems.
- ✓ Use items through the house to add together. Have your child write the numbers as math equations in their math journals. ex:  $3+4=7$
- ✓ Use the following website for additional math assistance:  
<http://www.ixl.com/math/grade-1>

\* Learning Goal: The student will **model subtraction by the action of separating** (*differences of whole numbers within 20*). The student will also use concrete objects and pictorial models to solve addition and subtraction problems (*sums and differences of whole numbers within 20*).

How parents can help:

- ✓ Create with your child a at-home math spiral notebook, he or she can place their math work in this spiral as they work on solving math problems.
- ✓ Use items through the house to subtract apart from each other. Have your child write the numbers as math equations in their math journals. ex:  $4+3=1$
- ✓ Use the following website for additional math assistance:  
<http://www.ixl.com/math/grade-1>

\* Learning Goal: The student will use **part-part-whole and comparing situations that represent either addition or subtraction** (*sums and differences of whole numbers within 20*).

How parents can help:

- ✓ Show your student with the diagram below what exactly part-part whole actually is. The two boxes below are the two numbers being added or subtracted, the box on top is the answer to the problem below.



- ✓ Click on the following website for a online tutorial on part-part whole:  
[http://video.search.yahoo.com/video/play;\\_ylt=A2KIo9QgBFFUeA8AhrT7w8QF;\\_ylu=X3oDMTByMjBzZmhtBHNIYwNzcgRzbGsDdmlkBHZ0aWQDBGdwb3MDNg--?p=teaching+part-part+whole&vid=f0f20c399615cab3a3a975163b5c41b9&l=8%3A39&turl=http%3A%2F%2Fts2.mm.bing.net%2Fth%3Fid=VN.60](http://video.search.yahoo.com/video/play;_ylt=A2KIo9QgBFFUeA8AhrT7w8QF;_ylu=X3oDMTByMjBzZmhtBHNIYwNzcgRzbGsDdmlkBHZ0aWQDBGdwb3MDNg--?p=teaching+part-part+whole&vid=f0f20c399615cab3a3a975163b5c41b9&l=8%3A39&turl=http%3A%2F%2Fts2.mm.bing.net%2Fth%3Fid=VN.60)

\* Learning Goal: The student will **understand that when adding two non-zero whole numbers, the sum will always be larger than each of the addends (*sums of whole numbers within 20*)**.

How parents can help:

- ✓ Please help your student create a math spiral notebook and ask them to write down various addition problems. ex:  $4+7=$ ,  $3+5=$ , or  $7+19=$
- ✓ You may use counters with your student to help them solve the problems you give them, counters can be constructed with pieces of cut up paper.
- ✓ Help your student understand that the answer to an addition problem is always going to be larger than either of the numbers added together as long as there is not a zero. Ex:  $6+18= 24$  (rule is correct)  $0+7= 7$  (rule does not apply)

\* Learning Goal: The student will **understand that When subtracting two non-zero whole numbers (with the minuend larger than the subtrahend), the difference will always be smaller than the minuend (*differences of whole numbers within 20*)**.

How parents can help:

- ✓ Please help your student create a math spiral notebook and ask them to write down various subtraction problems. ex:  $5-3=$ ,  $7-4=$ , or  $20-12=$
- ✓ You may use counters with your student to help them solve the problems you give them, counters can be constructed with pieces of cut up paper.
- ✓ Help your student understand that the answer to a subtraction problem is always going to be smaller than the largest number being subtracted as long as there is not a zero. Ex:  $12-4= 8$  (rule is correct)  $8-0= 8$  (rule does not apply)

\* Learning Goal: Student will **apply basic fact strategies to problems**.

How parents can help:

- ✓ You and your student can create word problems about things you have around the neighborhood. Ex. On our street, there are several cars. There are two red cars and seven blue cars. How many cars are there in all?
- ✓ You and your student can make up word problems while shopping at the clothing store.
- ✓ Please use the following links for some word problem games:
  - \*<http://www.math4children.com/games-k-to-6/1st grade/subtraction word problems/index.html>
  - \*<http://www.math4children.com/Grade1/quizzes/addition/Addition word problems/index.html>

\* Learning Goal: The student will **understand that number patterns within properties of numbers and operations can be used to describe relationships within addition and subtraction equations and applied to solve problems (sums and differences of whole numbers within 20).**

How parents can help:

- ✓ You and your student can practice solving problems with solving the problem from left to right as stated, but also read the problem backwards doing the opposite operation. (e.g.,  $2 + 4 = 6$ ;  $6 - 4 =$  )
- ✓ You and your student can use the Internet to reinforce number patterns:  
<http://www.oswego.org/ocsd--web/games/ghostbusters2/gb2nores.html>

\* Learning Goal: The student will **understand that problem situations can be created to illustrate a given number sentence (sums and differences of whole numbers within 20).**

How parents can help:

- ✓ You and your student can use the math spiral to work word problems into number sentences. For example: Joe has six green crayons and Steve has nine red crayons. Write the number sentence that represents what Joe and Steve have. ( $6+9=$  no answer needed at this time)

\* Learning Goal: The student will understand that **equivalence between two expressions in a number sentence is indicated by an equal sign.**

How parents can help:

- ✓ Explain to your child that equals means it means the same amount. Place different objects of equal amounts in front of your child and make the equal sign in between the objects
- ✓ You can use the website below to use worksheets and an interactive math equation machine:  
<http://firstgradeadventureinteaching.blogspot.com/2013/04/the-meaning-of-equals-sign-first-grade.html>

\* Learning Goal: The student will **understand number patterns within properties of numbers and operations can be used to describe relationships within addition and subtraction equations and applied to solve problems (sums and differences of whole numbers within 20).**

How parents can help:

- ✓ Help your student understand the common rules of addition and subtraction. For example:  $6+10=16$  is a true statement because the sum of the answer is larger than the two numbers being added and  $7-8=1$  is false because 7 is not larger than 8.
- ✓ Practice with your student in their at-home math spiral writing word problems and creating number sentences.

## Unit 6 Foundations of Numbers up to 99

\* Learning Goal: The student will **know that numbers can be composed or decomposed in multiple ways to represent part-whole relationships (*whole numbers up to 99*)**.

How parents can help:

- ✓ Help your student understand that composing numbers means to bring them together. For example combining 7 tens and 9 ones equals 79.
- ✓ Help your student understand that decomposing numbers means to break them apart according to their place value. For example 85 can be broken down to 8 tens and 5 ones.
- ✓ Click on the following link for a visual example of composing and decomposing: <http://www.mathsisfun.com/numbers/numbers-compose-decompose.html>
- ✓ Click on the following link for worksheet and activities examples of composing and decomposing numbers:  
<http://theteacherschair.blogspot.com/2012/11/composing-and-decomposing-numbers.html>

\* Learning Goal: The student will **understand a number can vary in representation as long as the total value of each representation remains unchanged (*whole numbers up to 99*)**. A digit's position within a number determines its value (*whole numbers up to 99*).

How parents can help:

- ✓ Ask your student to write down various numbers up to 99. Ask how the numbers they have written can be represented. For example 89 can be represented by 8 tens and 9 ones. Practice this activity until your student feels comfortable composing and decomposing numbers themselves.
- ✓ Cut strips that represent 10 units and small squares that represents ones. Work with your child on building numbers with your home-created base ten blocks.
- ✓ When working with numbers identify the place value of that number. Explain to your child that 68 really is 6 tens and 8 ones which can be represented in the number sentence  $60+8=68$ . Practice creating these number sentences using the home-made base 10 blocks.

\* Learning Goal: The student will **understand that when adding 1 or more to a number, the value of the number increases (*whole numbers up to 99*). When subtracting 1 or more from a number, the value of the number decreases (*counting numbers up to 99*).**

How parents can help:

- ✓ Use your home-created base 10 blocks to add various amounts to already existing numbers. Create number sentences with your child and use the base 10 blocks to find the answer to the number sentence.
- ✓ Find the answer for  $6+9=15$ . 6 ones plus 9 ones equals 15. Find the answer for  $5-4=1$ . 5 ones minus 4 ones equals 1.
- ✓ Click on the following website for further practice:  
<http://www.thecurriculumcorner.com/thecurriculumcorner123/2012/12/31/writing-number-sentences-to-solve-problems/>

\* Learning Goal: The student will **understand when comparing two numbers, the relationship between the numbers can be that of equality, meaning the two numbers are equal, or inequality, meaning one number is greater than or less than the other number (*whole numbers up to 99*).**

How parents can help:

- ✓ Use your at-home counting chips to compare numbers together to determine if one number is equal to the other or if they are not equal. For example: 6 and 66 are not equal because 6 is just 6 ones and 66 is 6 tens and 6 ones.
- ✓ Help your student understand the place value of a number through the use of your home-created base 10 blocks. If the number is 45, then there 5 ones and 4 tens.
- ✓ Click on the following website for further practice:  
<http://www.smartfirstgraders.com/comparing-numbers.html>

\* Learning Goal: The student will **know that numbers can be ordered based on their numerical value (*whole numbers up to 99*).**

How parents can help:

- ✓ In your at home math spiral create a 100s chart, in which you and your child will write out the numbers 1 thru 100. When you are done with the chart it will look like a large box with 100 numbers in it.
- ✓ With your 100s chart, ask your student to find any particular number. For example 25 and ask them how many tens and ones are in that number. Ask your student to add one to 25 to get 26. Ask them what place value went up, assist them in understanding the one's place was added to. Help your student understand with the place value goes up so does the value of the number.
- ✓ Continue this activity until your student feels comfortable with using place value and the 100's chart.

## Unit 7 Number Relationships up to 99

\* Learning Goal: The student will **use and understand that Patterns in place value exist when adding a multiple of 10 and a one-digit number (*sums up to 99*)**.

How parents can help:

- ✓ Have your student open their at-home math journal and turn it to the page where you have created your 100's chart. Choose a number from the chart and ask your student to add one to the given number. Do this until they are comfortable adding in the ones place.
- ✓ Use your 100's chart again and practice adding by 10, start with a number like 10 and help your student count ten places on the number line to 20, do the same thing over asking them what pattern they are seeing when they add one. Continue this activity until your student feels comfortable adding in the tens place.
- ✓ Click on the following link for a 100's chart game your student can play:  
<http://www.ictgames.com/100huntplus10.html>

\* Learning Goal: The student will **understand that numeric patterns exist in skip counting sequences (*counting numbers up to 99*)**.

How parents can help:

- ✓ Have your student get out their 100's chart and practice skip counting with them with various intervals, by 2's, 3's, 5's and 10s. Help them count on their chart until your student feels comfortable practicing this without added assistance from you.
- ✓ Use the following link to practice skip counting:  
<http://www.ixl.com/math/grade-1>

\* Learning Goal: The Student will **understand that place value relationships in the base-10 place value system can be used to determine a number 10 more or 10 less or 100 more or 100 less than any number (*whole numbers up to 99*)**.

How parents can help:

- ✓ Use your home-created base 10 blocks where strips represent 10s, small squares equal ones, and large squares 4inches by 4inches equals. Start with an even number like 20, ask your child to choose the two strips of paper that would equal 20, then ask your student to increase the number by another ten by adding another strip. They should be able to count by 10s to get the answer of 30.
- ✓ Practice this activity by increasing various numbers by 10 and by 100.
- ✓ The following link is more assistance and help with skip counting:  
[http://www.helpingwithmath.com/by\\_subject/counting/skip\\_counting.htm](http://www.helpingwithmath.com/by_subject/counting/skip_counting.htm)

\* Learning Goal: The student will **understand that numbers recited in the proper order represent a sequence (*counting numbers up to 99*)**. Numbers recited in the proper order have a pattern (*counting numbers up to 99*). Numbers recited in the proper order have a relationship to one another (*counting numbers up to 99*).

How parents can help:

- ✓ Help your student by practicing counting to 100. Explain to your student that numbers, when counted always go in a sequence. Show your student evidence of that on the at-home 100s chart you have created.
- ✓ Use your at-home 100s chart and identify patterns in the numbers as they increase. For example every set of numbers has a 5 in the ones place or a 3 in the ones place.
- ✓ Use your at-home 100s chart to practice counting 1-100, show your child that for every number you go up in the chart you are increasing one in the ones place or 10 in the tens place.