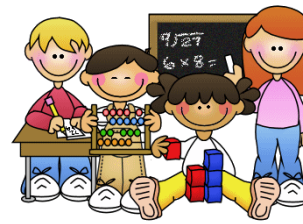


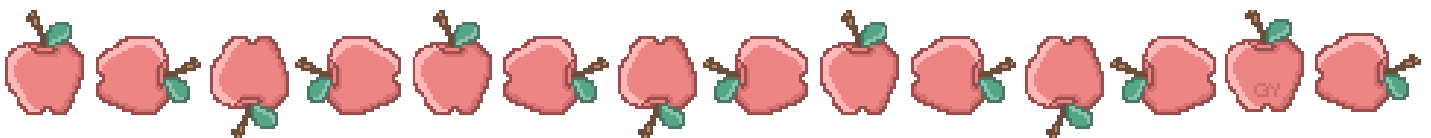
# 1<sup>st</sup> grade

## Math Moments for Families



### UNIT 5 VOCABULARY (Understanding Place Value)

- **Addition and subtraction within 5, 10, 20** - Example:  $8 + 2 = 10$  is an addition within 10,  $14 - 5 = 9$  is a subtraction within 20.
- **Addition** - to combine; put together two or more quantities
- **Additive identity property of 0** - any number added to zero equals the number.
- **Associative property of addition** - changing the group of 3 or more addends does not change the sum. For all numbers  $a$ ,  $b$ , and  $c$ ,  $(a + b) + c = a + (b + c)$
- **Benchmark** - common number that you can judge other numbers against
- **Chart/table** - a diagram displaying information
- **Commutative property** - Changing the order of the addends does not change the sum. For all numbers  $a$  and  $b$ ,  $a + b = b + a$ .
- **Compare** - to decide if one number is greater than, less than, or equal to another number
- **Compose** - to put together basic elements
- **Computation strategy** - purposeful manipulations that may be chosen for specific problems
- **Counting on** - a way to add
- **Data** - a collection of information
- **Decompose** - to separate into basic elements; regroup
- **Equal to** - having the same amount
- **Less than** - used to compare two numbers when the first number is smaller than the second number
- **Mark** - a quick way of keeping track of numbers in groups
- **More than/greater than** - used to compare two numbers when the first number is larger than the second
- **Number line** - a diagram that represents numbers as points on a line
- **Place value** - tens and ones - the value a digit has because of its place in a number
- **strategies for addition** - 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**  $6 + 6 + 1 = 12 + 1 = 13$ ).
- **subtraction** - take away; take from; take apart; remove
- **ten frame** - an array of squares to teach counting, number relationships and computation



# Strategies:



Example:

There are 37 children on the playground. When a class of 23 students come to the playground, how many students are on the playground altogether?

**Student 1**  
I used a hundreds chart. I started at 37 and moved over 3 to land on 40. Then to add 20 I moved down 2 rows and landed on 60. So there are 60 people on the playground.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

**Student 2**  
I used unifix cubes and made a pile of 37 and a pile of 23. I joined the tens and got 50. I then joined the ones and got 10. I then combined those piles and got 60. So there are 60 people on the playground.

**Student 3**  
I broke 37 and 23 into tens and ones. I added the tens and got 50. I added the ones and got 10. I know that 50 and 10 more is 60. So, there are 60 people on the playground.

**In First Grade, students are asked to unitize those ten individual ones as a whole unit: “one ten”. Students in first grade explore the idea that the teen numbers (11 to 19) can be expressed as one ten and some leftover ones. Ample experiences with ten frames will help develop this concept.**

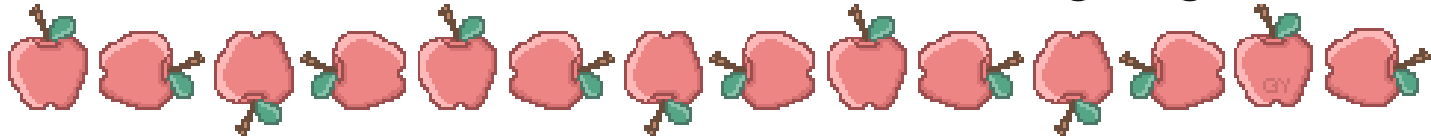
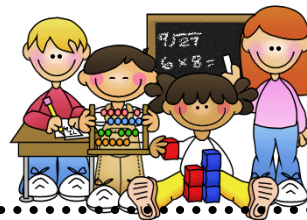
Student 1: I filled a ten-frame to make one ten and had two counters left over. I had enough to make a ten with some left over. The number 12 has 1 ten and 2 ones.

Student 2: I counted out 12 cubes. I had enough cubes to make a ten-rod (stick). I now have 1 ten and 2 cubes left over. So the number 12 has 1 ten and 2 ones.

Example:

For the number 12, do you have enough to make a ten?  
Would you have any leftover? If so, how many leftovers would you have?



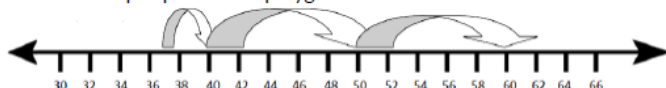


**Student 4**

Using mental math, I started at 37 and counted on 3 to get 40. Then I added 20 which is 2 tens, to land on 60. So, there are 60 people on the playground.

**Student 5**

I used the number track. I started at 37. Then I broke up 23 into 20 and 3 in my head. Next, I added 3 ones to get to 40. I then jumped 10 to get to 50 and 10 more to get to 60. So there are 60 people on the playground.



Examples:

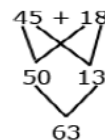
- $43 + 36$   
Student counts the 10s (10, 20, 30...70 or 1, 2, 3...7 tens) and then the 1s.



- $28 + 34$   
Student thinks: 2 tens plus 3 tens is 5 tens or 50. S/he counts the ones and notices there is another 10 plus 2 more. 50 and 10 is 60 plus 2 more or 62.



- $45 + 18$   
Student thinks: Four 10s and one 10 are 5 tens or 50. Then 5 and 8 is  $5 + 5 + 3$  (or  $8 + 2 + 3$ ) or 13. 50 and 13 is 6 tens plus 3 more or 63.



**MCC1.NBT.5** Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

[This standard builds on students' work with tens and ones by mentally adding ten more and ten less than any number less than 100. Ample experiences with ten frames and the 99 or hundreds chart help students use the patterns found in the tens place to solve such problems. This standard requires students to understand and apply the concept of 10 which leads to future place value concepts. It is critical for students to do this without counting. Prior use of models such as unifix cubes, beans and bean sticks, number lines, and 100s charts helps facilitate this understanding. It also helps students see the pattern involved when adding or subtracting 10.

Examples:

- 10 more than 43 is 53 because 53 is one more 10 than 43
- 10 less than 43 is 33 because 33 is one 10 less than 43

There are 74 birds in the park. 10 birds fly away. How many are left?

**Student 1**

I used a 100s board. I started at 74. Then, because 10 birds flew away, I moved back one row. I landed on 64. So, there are 64 birds left in the park.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100