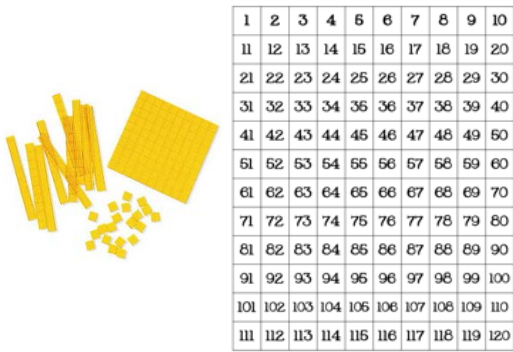


Extend the counting sequence (Standard 1)	
Standard 1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	
Concepts and Skills to Master	
<ul style="list-style-type: none"> Understand there is an ordered sequence of counting numbers Say counting numbers in the correct sequence from 1 to 120 Say counting numbers in the correct sequence starting at any number less than 120 Recognize and write numerals 0 - 120 Represent a number of objects with a written numeral, not necessarily counting to name the quantity Write a numeral given the name 	
Related Standards: Current Grade Level	Related Standards: Future Grade Levels
1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones 1.OA.5 Relate counting to addition and subtraction (for example, by counting on 2 to add 2)	2.NBT.1 Understand that the three digits of a three-digit number represents amounts of hundreds, tens and ones 2.NBT.2 Count within 1,000; skip-counting by fives, tens, and hundreds 2.NBT.3 Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form
Critical Background Knowledge from Previous Grade Levels	
<ul style="list-style-type: none"> Count to 100 by ones and tens (K.CC.1) Count forward beginning from any number (K.CC.2) Read and write numerals from 0-20 (K.CC.3) Represent a number of objects with a written numeral, recognize 0 represents a count of zero (K.CC.3) Understand the relationship between numbers and quantities; connect counting to cardinality, understand one-to-one correspondence (K.CC.4) 	
Academic Vocabulary	
counting numbers 1–120, hundred, tens, ones, quantity, numeral, number, sequence, represent, how many	
Suggested Models	Suggested Strategies
	<ul style="list-style-type: none"> Use a 120 chart to identify numbers and patterns Use base-ten rods and unit cubes while counting Use a partially completed hundreds chart and fill in missing numbers using counting and patterns Discuss the difference between reversed numbers, such as 34 and 43

Understand place value (Standards 2–3)	
<p>Standard 1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p>a. 10 can be thought of as a bundle of ten ones, called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p>	
Concepts and Skills to Master	
<ul style="list-style-type: none"> Understand that 10 can be represented as a bundle of ten ones-called a “ten.” This is known as unitizing Understand that in place value a specific digit represents how many tens or how many ones compose the number Use place value language to describe amounts of tens and ones. For example, 42 is four tens and two ones Identify decade numbers (10, 20, 30, 40, 50, 60, 70, 80, 90) as groups of ten with no ones leftover <p>Teacher Note: In kindergarten, students compose and decompose numbers from 11–19 into ten ones and some further ones. They do not unitize a group of ten ones as a “ten.” In first grade, students extend this understanding to unitize a group of ten ones as a “ten.” They also understand two-digit numbers as having multiple “tens.”</p>	
Related Standards: Current Grade Level	Related Standards: Future Grade Levels
<p>1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits 1.NBT.4 Add within 100, using concrete models or drawings based on place value; Understand that it is sometimes necessary to compose a ten 1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number without having to count 1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90</p>	<p>2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones 2.NBT.2 Count within 1,000; skip count by fives, tens, and hundreds 2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form 2.NBT.4 Compare two three digit numbers based on the meanings of the hundreds, tens, and ones 3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100</p>
Critical Background Knowledge from Previous Grade Levels	
<ul style="list-style-type: none"> Compose and decompose numbers from 11–19 into ten ones and some further ones. Use objects or drawings and record each composition or decomposition by a drawing or equation (K.NBT.1) Count to 100 by ones and tens (K.CC.1) Read and write numbers using base ten numerals from 0–20. Represent a number of objects with a written numeral. (K.CC.3) 	
Academic Vocabulary	
<p>“a ten”, tens, ones, digit(s), decade number, decompose, compose, bundle, number names 1-99, place value</p>	

Suggested Models

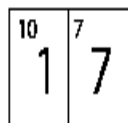
Number-bond diagram and equation



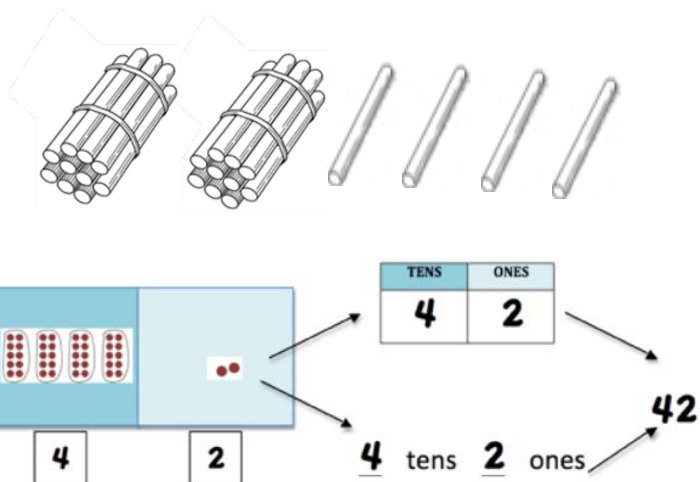
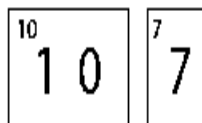
$$17 = 10 + 7$$

Place value cards

layered



separated

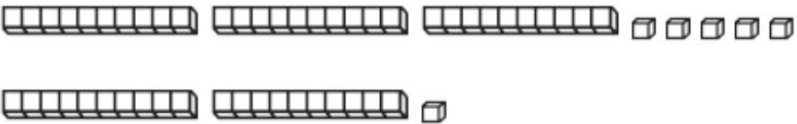


Also see Suggested Models for Standards K.NBT.1

Suggested Strategies

- Use a variety of groupable objects such as counters with cups, linking cubes, and bundles of sticks to represent a number from 11-99
- Use ten frames to represent a number from 11-19 and multiple ten frames to represent numbers 20-99
- Use a variety of pre-grouped base-ten objects such as base-ten blocks and pre-grouped bundles and linking cubes
- Use place value mats and drawings to represent a number from 11-99
- Use place value cards to help students identify the value of the number in the tens place and the value of the number in the ones place and represent it in expanded form
- Write expanded form equations based on physical and visual representations
- Move from counting all to recognizing tens and some more ones
- Move from groupable objects to pre-grouped base ten objects (cups of beans to base ten blocks)
- Use number lines and hundreds charts to represent a number from 11-99.

Images Sources: <http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf> ; http://commoncoretools.me/wp-content/uploads/2015/03/ccss_progression_nbp_k5_2015_03_16.pdf

Understand place value (Standards 2–3)	
Standard 1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.	
Concepts and Skills to Master	
<ul style="list-style-type: none"> • Understand that when comparing two numbers, one looks at the whole number, not just individual digits • Understand that a number (greater than 0) in the tens place always has a greater value than the number in the ones place • Generalize that the number with the most tens is greater • Understand that when comparing two numbers if the number of tens is the same, the number with more ones is greater • Use terms including greater than, more than, less than, fewer than, equal to, and same as, to describe comparisons • Understand the meaning of the symbols $>$, $=$, and $<$ and use them to correctly to compare two-digit numbers • Understand that two two-digit numbers that have equal value are represented by the equal sign 	
<p>Teacher Note: In kindergarten, students use verbal language to identify whether groups of objects or numerals are greater than, less than or equal to other groups of objects or numerals. First grade is the first time students are introduced to using the symbols to record comparisons. Emphasis should be placed on the meaning of quantities rather than tricks such as “the alligator eats the bigger number,” etc. The inequality symbols ($<$, $>$) are shortcuts for identifying the relationship between two numbers where one is greater or smaller than the other. The statements are read from left to right ($15 < 28$ is read “fifteen is less than twenty-eight”).</p>	
Related Standards: Current Grade Level	Related Standards: Future Grade Level
<p>1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones</p> <p>1.OA.7 Understand the meaning of the equal sign</p>	<p>2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones</p> <p>2.NBT.3 Read and write numbers to 1,000 using base-ten numerals, number names and expanded form</p> <p>2.NBT.4 Compare two three-digit numbers based on meanings of the meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$, symbols to record the results of comparisons</p>
Critical Background Knowledge from Previous Grade Levels	
<ul style="list-style-type: none"> • Compose and decompose numbers from 11-19 into ten ones and some further ones (K.NBT.1) • Identify whether the number of objects in one group is greater than, less than or equal to the number of objects in another group (K.CC.6) • Compare two numbers between 1 and 10 presented as written numerals using “great than,” “less than,” or “equal to.” (K.CC.7) 	
Academic Vocabulary	
compare, more, greater than ($>$), more than, most, less, less than ($<$), fewer, least, equal ($=$), same as	
Suggested Models	Suggested Strategies
 <p>35 > 21 or 21 < 35</p>	<ul style="list-style-type: none"> • Use concrete models such as objects on place value charts, tens frames, base-ten blocks, hundreds chart, and number lines to compare two 2-digit numbers • Write two two-digit numbers in expanded form and compare the value of the tens

Use place value understanding and properties of operations to add and subtract (Standards 4–6).	
<p>Standard 1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens to tens and ones to ones, and that it is sometimes necessary to compose a ten.</p>	
<p>Concepts and Skills to Master</p> <ul style="list-style-type: none"> • Use place value understanding to compute sums within 100 using concrete objects, place value cards, or drawings • Add a two-digit number and a one-digit number using a variety of strategies • Add a two-digit number and a multiple of 10 using a variety of strategies • Use the commutative property when adding (students may, but need not use formal term) • Connect physical representations (objects) to visual representations (drawings) • Connect physical and visual representations to written methods (expressions, equations, expanded form, etc.) and explain the reasoning used when adding • Understand that in adding two-digit numbers, one adds tens to tens and ones to ones • Understand that it is sometimes necessary to compose a ten (regroup) • Identify when it is necessary to compose a ten (regroup) (45+7= 52 When adding the 5 ones to the 7 ones, a new ten is composed which makes 12. 40 and 12 have a total of 52.) <p>Teacher Note: The standard algorithm of “carrying or borrowing” is neither an expectation nor a focus in first grade. Students use a variety of strategies for addition and subtraction in grades K-3. By the end of third grade students use a range of algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction to fluently add and subtract within 1,000.</p>	
<p>Related Standards: Current Grade Level</p> <p>1.OA.1 Use addition and subtraction within 20 to solve word problems by using objects, drawings, and equations with a symbol for the unknown number to represent the problem</p> <p>1.OA.3 Apply properties of operations as strategies to add such as the commutative and associative properties of addition</p> <p>1.OA.5 Relate counting to addition and subtraction. For example, by counting on 2 to add 2.</p> <p>1.OA.6 Add and subtract within 20, demonstrate fluency for addition and subtraction within 10</p> <p>1.NBT.5 Given a two-digit number, mentally find 10 more than the number, without having to count; explain the reasoning used.</p>	<p>Related Standards: Future Grade Levels</p> <p>2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction</p> <p>2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems</p> <p>2.MD.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units</p> <p>2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies</p> <p>3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction</p>
<p>Critical Background Knowledge from Previous Grade Levels</p> <ul style="list-style-type: none"> • Understand that the two digits of a two-digit number represent amounts of tens and ones (1.NBT.2) • Solve addition and subtraction word problems within 10 (K.OA.2) • Make sums of 10 using any number from 1 to 9 (K.OA.4) • Compose and decompose numbers from 11–19 into ten ones and some further ones (K.NBT.1) 	

Academic Vocabulary

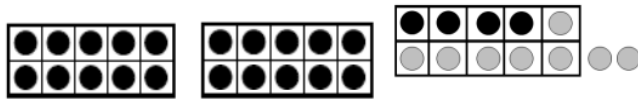
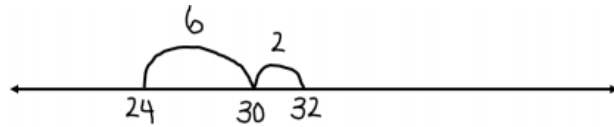
place value, one, tens, add, compose (regroup), decompose, digit(s)

Suggested Models

Example: $24 + 8 = ?$

$$24 + 6 = 30$$

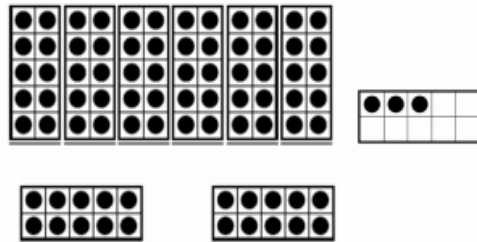
$$30 + 2 = 32$$



Example: $63 + 20 = ?$

$$63 + 10 = 73$$

$$73 + 10 = 83$$



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

Suggested Strategies

- Use a hundreds chart to add
- Use an open number line to add
- Make the next ten to add a two digit number to a one digit number (24+8 by using 6 ones from the 8 ones and adding it to 24 to make the next ten which is 30. Then add 30 to the remaining 2 ones to get 32)
- Use both vertical and horizontal formats when writing equations
- Use mental computation strategies to develop number sense

Suggested Models (continued)

Compose 10 ones:

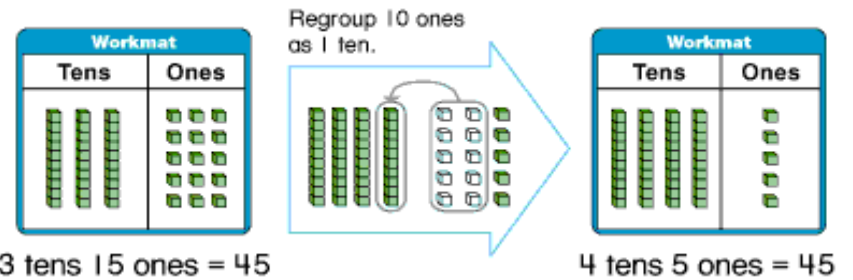
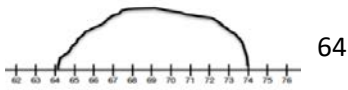
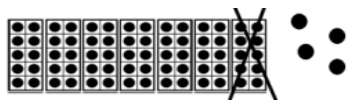
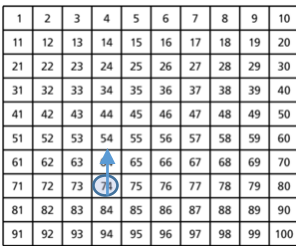
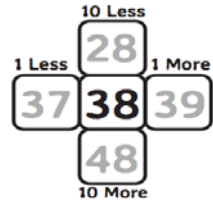


Image sources: <http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf>,
https://www.eduplace.com/math/mw/background/2/06/te_2_06_overview.html

Use place value understanding and properties of operations to add and subtract (Standards 4–6).	
Standard 1.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.	
Concepts and Skills to Master	
<ul style="list-style-type: none"> • Use mental calculation in finding 10 more or 10 less than a given two-digit number without having to count by ones • Explain the reasoning used in finding 10 more or 10 less • Understand that only the tens place changes when mentally finding ten more or ten less 	
Related Standards: Current Grade Level	Related Standards: Future Grade Levels
<p>1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones</p> <p>1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10</p> <p>1.NBT.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90</p>	<p>2.NBT.5, 2.MD.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction</p> <p>2.NBT.8 Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900</p> <p>2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies</p> <p>3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction</p>
Critical Background Knowledge from Previous Grade Levels	
<ul style="list-style-type: none"> • Relate counting to addition and subtraction (1.OA.5) • Solve addition and subtraction word problems within 10 (K.OA.2) 	
Academic Vocabulary	
more, less, add, subtract, ten, digit(s)	
Suggested Models	Suggested Strategies
<p>There are 74 birds in the park. 10 birds fly away. How many birds are in the park now?</p> <p>Student A I thought about a number line. I started at 74. Then, because 10 birds flew away, I took a leap of 10. I landed on 64. So, there are birds left in the park.</p>  <p>Student B I pictured 7 ten frames and 4 left over in my head. Since 10 birds flew away, I took one of the ten frames away. That left 6 ten frames and 4 left over. So, there are 64 birds left in the park.</p>  <p>Student C I know that 10 less than 74 is 64, so there are 64 birds in the park. Students may use a hundreds chart to locate 74, then move up one row to 64 to show ten less.</p> 	<ul style="list-style-type: none"> • Mentally picture a number line or hundred chart • Mentally picture ten frames • Mentally subtract or add 10 without having to count by ones • Use drawings and layered cards to explain mental computations <p>Suggested Models (continued)</p> <p>Place a figure like this on a hundreds chart to identify 10 more and 10 less. Students may also create an image like this to represent a portion of a hundreds chart to solve for 10 more and 10 less.</p> 
Image Source: http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf	

Use place value understanding and properties of operations to add and subtract (Standards 4–6).	
Standard 1.NBT.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	
Concepts and Skills to Master	
<ul style="list-style-type: none"> Subtract multiples of 10 from multiples of 10 in the range 10–90 to find the difference ($70 - 40 = 30$) Use concrete models or drawings to represent differences of multiples of 10 Use strategies based on place value to subtract multiples of ten (7 tens minus 4 tens) Use strategies based on properties of operations and/or the relationship between addition and subtraction to subtract multiples of ten ($80 - 70$ as an unknown addend addition problem, $70 + ? = 80$, reason that one ten must be added to 70 to make 80, so $80 - 70 = 10$) Connect the strategy used to a written method and explain the reasoning used when subtracting multiples of 10 	
Teacher Note: First graders are not expected to compute differences of two digit numbers other than multiples of ten (decade numbers including 10, 20, 30, 40, 50, 60, 70, 80, 90).	
Related Standards: Current Grade Level	Related Standards: Future Grade Level
<p>1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones</p> <p>1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10</p> <p>1.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.</p> <p>1.OA.4 Understand subtraction as an unknown-addend problems</p>	<p>2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction</p> <p>2.NBT.8 Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900</p> <p>2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies</p> <p>3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction</p>
Critical Background Knowledge from Previous Grade Levels	
<ul style="list-style-type: none"> Relate counting to addition and subtraction (1.OA.5) Solve addition and subtraction word problems within 10 (K.OA.2) 	
Academic Vocabulary	
less, difference, ten, digit(s), subtract, decade numbers	
Suggested Strategies	
<ul style="list-style-type: none"> Use concrete models such as hundred charts, base ten blocks, and ten frames to subtract multiples of 10 from decade numbers Use drawings such as number lines to subtract multiples of 10 from decade numbers Use place value strategies to subtract multiples of 10 from decade numbers Use related addition facts to subtract multiples of 10 from decade numbers 	

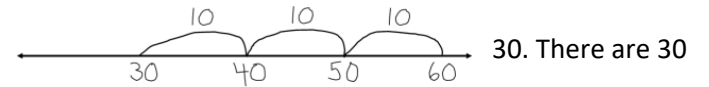
Suggested Models

Example: There are 60 students in the gym. 30 students leave. How many students are still in the gym?

Student A

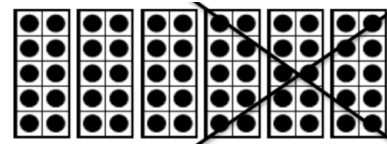
I used a number line. I started at 60 and moved back 3 jumps of 10 and landed on 30 students left.

$60 - 10 = 50$
$50 - 10 = 40$
$40 - 10 = 30$



Student B

I had 6 ten frames- that's 60. I removed three ten frames because 30 students left 30 students left in the gym.



$60 - 30 = 30$

the gym. There are

Student C

I thought, "30 and what makes 60?". I know 3 and 3 is 6. So, I thought that 30 and 30 makes 60. There are 30 students still in the gym.

Image and text source: <http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf>