

CCSS Number and Operations in
Base Ten (NBT)

Unpacking the Standards

Grade 1

Number and Operations in Base Ten: Extend the counting sequence.

Standard: 1.NBT.1

Cluster: major (m)

Math Practices: MP 2, 7, 8

Related CA Standard

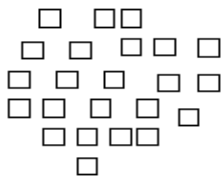
NS 1.1 Count, read, and write whole numbers to 100.

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.

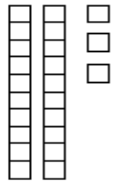
Essential Skills/Concepts	Teaching Notes/Strategies	Resources																																																						
<ul style="list-style-type: none"> - Understand Counting and Cardinality - Use objects, words and/or symbols to express quantity - Understand there are different representations of numbers (see back side) - Understand that the position of each digit in a number impacts the quantity of the number "17" vs "71" 	<ul style="list-style-type: none"> - Count objects in the classroom, steps to get to a certain location etc - Math Packets - Games: "I have, you have" - Daily Practice - Calendar - Board Math - Vertical Hundreds Chart <div data-bbox="898 857 1178 1141" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;">Part of a numeral list</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr><td>91</td><td>101</td><td>111</td></tr> <tr><td>92</td><td>102</td><td>112</td></tr> <tr><td>93</td><td>103</td><td>113</td></tr> <tr><td>94</td><td>104</td><td>114</td></tr> <tr><td>95</td><td>105</td><td>115</td></tr> <tr><td>96</td><td>106</td><td>116</td></tr> <tr><td>97</td><td>107</td><td>117</td></tr> <tr><td>98</td><td>108</td><td>118</td></tr> <tr><td>99</td><td>109</td><td>119</td></tr> <tr><td>100</td><td>110</td><td>120</td></tr> </table> </div> <p style="margin-top: 20px;">-Layered place value cards</p> <div data-bbox="772 1276 1297 1500" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;">Place value cards</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;">layered</td> <td style="width: 50%; text-align: center; padding: 5px;">separated</td> </tr> <tr> <td style="padding: 5px;">front: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">10</td><td style="padding: 2px 5px;">7</td></tr><tr><td style="padding: 2px 5px; font-size: 2em;">1</td><td style="padding: 2px 5px; font-size: 2em;">7</td></tr></table></td> <td style="padding: 5px;">front: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">10</td><td style="padding: 2px 5px;">0</td><td style="padding: 2px 5px;">7</td></tr><tr><td style="padding: 2px 5px; font-size: 2em;">1</td><td style="padding: 2px 5px; font-size: 2em;">0</td><td style="padding: 2px 5px; font-size: 2em;">7</td></tr></table></td> </tr> <tr> <td style="padding: 5px;">back: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●●●</td></tr><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr></table></td> <td style="padding: 5px;">back: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr></table></td> </tr> </table> </div>	91	101	111	92	102	112	93	103	113	94	104	114	95	105	115	96	106	116	97	107	117	98	108	118	99	109	119	100	110	120	layered	separated	front: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">10</td><td style="padding: 2px 5px;">7</td></tr><tr><td style="padding: 2px 5px; font-size: 2em;">1</td><td style="padding: 2px 5px; font-size: 2em;">7</td></tr></table>	10	7	1	7	front: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">10</td><td style="padding: 2px 5px;">0</td><td style="padding: 2px 5px;">7</td></tr><tr><td style="padding: 2px 5px; font-size: 2em;">1</td><td style="padding: 2px 5px; font-size: 2em;">0</td><td style="padding: 2px 5px; font-size: 2em;">7</td></tr></table>	10	0	7	1	0	7	back: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●●●</td></tr><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr></table>	●●●●	●●●●	●●●●	●●	back: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr></table>	●●●●	●●	●●●●	●●	<p>Math Curriculum Base-Ten blocks Math Workmats Math Practice Book Board Math Frames Linking Cubes Counters Hundreds Chart White Boards See Survival Kit Website Resource Page</p>
91	101	111																																																						
92	102	112																																																						
93	103	113																																																						
94	104	114																																																						
95	105	115																																																						
96	106	116																																																						
97	107	117																																																						
98	108	118																																																						
99	109	119																																																						
100	110	120																																																						
layered	separated																																																							
front: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">10</td><td style="padding: 2px 5px;">7</td></tr><tr><td style="padding: 2px 5px; font-size: 2em;">1</td><td style="padding: 2px 5px; font-size: 2em;">7</td></tr></table>	10	7	1	7	front: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">10</td><td style="padding: 2px 5px;">0</td><td style="padding: 2px 5px;">7</td></tr><tr><td style="padding: 2px 5px; font-size: 2em;">1</td><td style="padding: 2px 5px; font-size: 2em;">0</td><td style="padding: 2px 5px; font-size: 2em;">7</td></tr></table>	10	0	7	1	0	7																																													
10	7																																																							
1	7																																																							
10	0	7																																																						
1	0	7																																																						
back: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●●●</td></tr><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr></table>	●●●●	●●●●	●●●●	●●	back: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr><tr><td style="padding: 2px 5px;">●●●●</td><td style="padding: 2px 5px;">●●</td></tr></table>	●●●●	●●	●●●●	●●																																															
●●●●	●●●●																																																							
●●●●	●●																																																							
●●●●	●●																																																							
●●●●	●●																																																							
<p>Academic Vocabulary: Number words, 0-120 , one/two/three-digit number</p>																																																								

- Whiteboard practice for representing numbers and writing numbers

Different representations of numbers



Group of ones



Group of 2 tens and 3 ones

Tens	Ones
2	3

Place value table

23

Write the number

Twenty-three

Read and say the number

Number and Operations in Base Ten: Understand place value.

Standard: 1.NBT.2

Cluster: major (m)

Math Practices: MP 2, 5, 6, 7, 8

Related CA Standard

NS 1.4 Count and group object in ones and tens

Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

1.NBT.2a 10 can be thought of as a bundle of ten ones -called a "ten"

1.NBT.2b The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

1.NBT.2c 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).

Essential Skills/Concepts	Teaching Notes/Strategies	Resources
<ul style="list-style-type: none"> - Understand that a "ten" is equal to 10 ones: Bundling tens ones into a ten rod (stick) is called "unitizing" - Understand two digit of a two digit number represent amounts of tens and ones - Read numbers in different ways: <i>Ex. 53 as "fifty-three" as well as five tens and three ones</i> 	<ul style="list-style-type: none"> - Group proportional objects (e.g., cubes, beans, beads, ten-frames) to make groups of ten, rather than using pre-grouped materials (e.g., base ten blocks, pre-made bean sticks) that have to be "traded" - Use transitions in classroom as time to practice reading numbers in different ways - Math Smart Book - Number Book - Board Math Stems - "How are "19" and "91" different?" <p><u>Example:</u> (NBT 2b) Here is a pile of 12 cubes. Do you have enough to make a ten? Would you have any leftover? If so, how many leftovers would you have?</p>	<p>See above</p> <p>Math Their Way Blackline Masters: Place value sheets www.center.edu/BLACKLINE/blacklines.shyml</p> <p>Linking Cubes (helps for bundling tens)</p>
<p>Academic Vocabulary: tens, ones, bundle, left-overs, singles, groups, trade/exchange</p>		

Number and Operations in Base Ten: Understand place value.

Standard: 1.NBT.3

Cluster: major (m)

Math Practices: MP 2, 6. 7. 8

Related CA Standard
 NS 1.2 Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than (<, =, >).

- Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, <.

Essential Skills/Concepts	Teaching Notes/Strategies	Resources
<ul style="list-style-type: none"> - Understand that the digit in the tens place is more important than the digit in the ones place for determining the size of a two-digit number - Understand the concept of comparing: greater than, less than, equal to and connect vocabulary to the symbols <, =, > 	<p>Board Math Stems:</p> <ul style="list-style-type: none"> - Put these numbers in order from least to greatest 93 56 39 - Compare these two numbers using symbols 36 39 - What number will make this number sentence true? ___ > 39 - Number Talks: Explain reasoning using academic language 	<p>See above</p>
<p>Academic Vocabulary: greater/less than, equal to, compare, least to greatest,</p>		

Number and Operations in Base Ten: Use place value understanding and properties of operations to add and subtract.

Standard: 1.NBT.4

Cluster: major (m)

Math Practices: MP 1, 2, 3, 4, 6, 7, 8

Related CA Standard
NS 2.6 Solve addition and subtraction problems with one- and two-digit numbers

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 and tens, ones and ones; and sometimes it is necessary to compose a ten.

Regrouping: use visual representations (concrete models or drawings)

CAUTION: The standard algorithm of carrying or borrowing is neither an expectation nor a focus in First Grade.

Essential Skills/Concepts	Teaching Notes/Strategies	Resources
<ul style="list-style-type: none"> - Understand addition concepts - Understand different strategies for adding - use concrete materials, models, drawings and place value strategies to add within 100. - add ones with ones and tens with tens - Use visual representations for composing ten (regrouping) - Explain thinking using vocabulary 	<p>Ex. Composing a ten with visual representation</p> <div style="text-align: center;"> $\begin{array}{r} 28 \\ + 34 \\ \hline \end{array}$ </div> <ul style="list-style-type: none"> - Universal Access - Workshop stations - Smart Book - Board Math <p>Ex. Find the sum. $34 + 20$</p>	<p>See Above Ten Frames Hundreds Chart Base ten blocks</p>
<p>Academic Vocabulary: strategy, addition, sum, equal, equation, make ten, ones, tens, add,</p>	<p>Find the sum.</p>	

Number and Operations in Base Ten: Use place value understanding and properties of operations to add and subtract.

Standard: 1.NBT.5

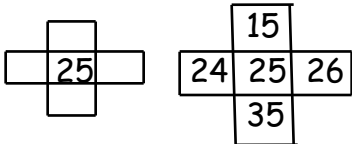
Cluster: major (m)

Math Practices: MP 2, 3, 7, 8

Related CA Standard

NS 2.3 Identify one more than, one less than, 10 more than, and 10 less than a given number.

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

Essential Skills/Concepts	Teaching Notes/Strategies	Resources
<ul style="list-style-type: none"> - Recognize and conceptualize numbers - Show the pattern of 10 more/less by using drawings and place value cards - Understand mental math 	<ul style="list-style-type: none"> - Board Math: <ul style="list-style-type: none"> Ex. What is ten less than 56? Ex. There are 54 cards in the basket. 10 of them are used. How many are left? - Color in a number on 100s chart and have student find 10 more/less and color in the new number (helps visual the pattern) - Collaborative conversations to explain reasoning/Number Talks <ul style="list-style-type: none"> Ex. Fill in the missing numbers from the hundreds chart <div style="text-align: center; margin-top: 10px;">  </div>	<p>See Above</p>
<p>Academic Vocabulary: 10 more, ten less, “mentally”, explain</p>		

Number and Operations in Base Ten: Use place value understanding and properties of operations to add and subtract.

Math Practices: MP 2, 3, 4, 5, 7, 8

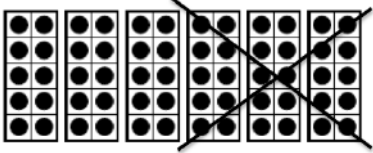
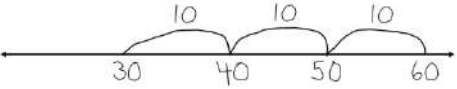
Related CA Standard
NS 2.6 Solve addition and subtraction problems with one- and two-digit numbers

Standard: 1.NBT.6
Cluster: major (m)

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.

Written method = number sentence, ex. $60 - 30$

NOTE: First graders are not expected to compute differences of two-digit numbers other than multiples of ten.

Essential Skills/Concepts	Teaching Notes/Strategies	Resources
<ul style="list-style-type: none"> - Represent numbers that are multiples of 10 (10, 20, 30...90) - Understand subtraction concept - Know how to use concrete models and/or know how to draw representations - Subtract multiples of ten - Counting back...if counting back is too difficult, teach counting forward method 	<p><u>Example:</u> There are 60 students in the gym. 30 students leave. How many students are still in the gym?</p> <p>Base ten Frames</p>  <p>Number Line</p> 	<p>See Above</p>
<p>Academic Vocabulary: subtract, reason, explain, count back/forward</p>		