

# Pender County Schools

## Mathematics 1<sup>st</sup> Grade

### What do we expect our students to learn?

1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
<p><b>Topic 1- Number to 12</b>  <b>1.NBT.1</b> 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. (1-1, 1-2, 1-3, 1-4, 1-5, 1-6,)  <b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: (1-3,)  b) The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. (1-3)</p> <p><b>Topic 2- Comparing and ordering numbers</b>  <b>1.NBT.3</b> Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, and <math>&lt;</math>. (2-1)</p> <p><b>Topic 3- Understanding Addition</b>  <b>1.OA.1</b> Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (3-1, 3-2, 3-3, 3-4, 3-5, 3-7)  <b>1.OA.3</b> Apply properties of operations as strategies to add and subtract. Examples: If <math>8 + 3 = 11</math> is known, then <math>3 + 8 = 11</math> is also known. (Commutative property of addition.) To add <math>2 + 6 + 4</math>, the second two numbers can be added to make a ten, so <math>2 + 6 + 4 = 2 + 10 = 12</math>. (Associative property of addition.) (Students need not use formal terms for these properties.) (3-6)  <b>1.OA.7</b> Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? <math>6 = 6</math>, <math>7 = 8 - 1</math>, <math>5 + 2 = 2 + 5</math>, <math>4 + 1 = 5 + 2</math>. (3-4)  <b>1.OA.8</b> Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = \diamond - 3</math>, <math>6 + 6 = \diamond</math>. (3-4)</p>	<p><b>Topic 4- Understanding Subtraction</b>  <b>1.OA.1</b> Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7, 4-8)  <b>1.OA.4</b> Understand subtraction as an unknown-addend problem. For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8. (4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7)  <b>1.OA.6</b> Add and subtract within 20, demonstrating fluency for addition 4-1, 4-2, 4-3, 4-4, 4-5, and subtraction within 10. Use strategies such as counting on; making ten (e.g., <math>8 + 6 = 8 + 2 + 4 = 10 + 4 = 14</math>); decomposing a number leading to a ten (e.g., <math>13 - 4 = 13 - 3 - 1 = 10 - 1 = 9</math>); using the relationship between addition and subtraction (e.g., knowing that <math>8 + 4 = 12</math>, one knows <math>12 - 8 = 4</math>); and creating equivalent but easier or known sums (e.g., adding <math>6 + 7</math> by creating the known equivalent <math>6 + 6 + 1 = 12 + 1 = 13</math>). (4-6, 4-7)  <b>1.OA.7</b> Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? <math>6 = 6</math>, <math>7 = 8 - 1</math>, <math>5 + 2 = 2 + 5</math>, <math>4 + 1 = 5 + 2</math>. (4-4)  <b>1.OA.8</b> Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = \diamond - 3</math>, <math>6 + 6 = \diamond</math>. (4-1, 4-2, 4-3, 4-5, 4-6, 4-7)</p> <p><b>Topic 7- Subtraction Facts to 12</b>  <b>1.OA.1</b> Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all</p>	<p><b>Topic 11- Tens and Ones</b>  <b>1.NBT.1</b> 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. (11-1, 11-2, 11-3, 11-4)  <b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: (11-1, 11-2, 11-3, 11-4, 11-5, 11-6)  a) 10 can be thought of as a bundle of ten ones — called a “ten.” (11-1, 11-2, 11-3, 11-5, 11-6)  b) The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. (11-1, 11-3)  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). (11-2, 11-3)  <b>1.OA.7</b> Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? <math>6 = 6</math>, <math>7 = 8 - 1</math>, <math>5 + 2 = 2 + 5</math>, <math>4 + 1 = 5 + 2</math>. (11-4)</p> <p><b>Topic 12- Comparing and ordering numbers to 100</b>  <b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: (12-2)  <b>1.NBT.3</b> Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, and <math>&lt;</math>. (12-3, 12-4, 12-5, 12-6, 12-7, 12-8)  <b>1.NBT.4</b> 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</p>	<p><b>Topic 8- Geometry</b>  <b>1.G.1</b> Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. (8-1, 8-2, 8-9, 8-10, 8-11)  <b>1.G.2</b> Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as “right rectangular prism.”) (8-3, 8-4)</p> <p><b>Topic 14- Measurement</b>  <b>1.MD.1</b> Order three objects by length; compare the lengths of two objects indirectly by using a third object. (14-1)  <b>1.MD.2</b> Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. (14-2, 14-3, 14-4, 14-5)</p> <p><b>Topic 15- Time</b>  <b>1.MD.3</b> Tell and write time in hours and half-hours using analog and digital clocks. (15-1, 15-2, 15-3)</p> <p><b>Topic 19- Fractional Parts</b>  <b>1.G.3</b> Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples</p>

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### Topic 5- Five and Ten Relationships

**1.OA.4** Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by finding the number that makes 10 when added to 8. (5-4)

**1.OA.8** Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations  $8 + ? = 11$ ,  $5 = \diamond - 3$ ,  $6 + 6 = \diamond$ . (5-4)

### Topic 6- Addition Facts to 12

**1.OA.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (6-6)

**1.OA.3** Apply properties of operations as strategies to add and subtract. Examples: If  $8 + 3 = 11$  is known, then  $3 + 8 = 11$  is also known. (Commutative property of addition.) To add  $2 + 6 + 4$ , the second two numbers can be added to make a ten, so  $2 + 6 + 4 = 2 + 10 = 12$ . (Associative property of addition.) (Students need not use formal terms for these properties.) (6-1)

**1.OA.6** Add and subtract within 20, demonstrating fluency for addition 4-1, 4-2, 4-3, 4-4, 4-5, and subtraction within 10. 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  $6 + 6 + 1 = 12 + 1 = 13$ ). (6-1, 6-2, 6-3, 6-4, 6-5)

**1.OA.7.** Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false?  $6 = 6$ ,  $7 = 8 - 1$ ,  $5 + 2 = 2 + 5$ ,  $4 + 1 = 5 + 2$ . (6-1)

**1.OA.8** Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations  $8 + ? = 11$ ,  $5 = \diamond - 3$ ,  $6 + 6 = \diamond$ . (6-2, 6-3, 6-4, 6-5.)

positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (7-1, 7-2, 7-3, 7-4, 7-5)

**1.OA.4** Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by finding the number that makes 10 when added to 8. (7-2, 7-3, 7-4)

**1.OA.6** Add and subtract within 20, demonstrating fluency for addition 4-1, 4-2, 4-3, 4-4, 4-5, and subtraction within 10. 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  $6 + 6 + 1 = 12 + 1 = 13$ ). (7-1, 7-2, 7-3, 7-4)

**1.OA.8** Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations  $8 + ? = 11$ ,  $5 = \diamond - 3$ ,  $6 + 6 = \diamond$ . (7-2, 7-3, 7-4)

### Topic 10- Counting and Number Patterns to 100

**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. (10-3, 10-4, 10-5)

**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: (10-1)

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). (10-3)

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. (12-1, 12-2)

**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. (12-1)

**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. (12-1)

### Topic 16- Addition Facts to 18

**1.OA.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (16-1, 16-2, 16-3, 16-4, 16-5, 16-6)

**1.OA.2** Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (16-7)

**1.OA.3** Apply properties of operations as strategies to add and subtract. Examples: If  $8 + 3 = 11$  is known, then  $3 + 8 = 11$  is also known. (Commutative property of addition.) To add  $2 + 6 + 4$ , the second two numbers can be added to make a ten, so  $2 + 6 + 4 = 2 + 10 = 12$ . (Associative property of addition.) (Students need not use formal terms for these properties.) (16-7)

**1.OA.6** Add and subtract within 20, demonstrating fluency for addition 4-1, 4-2, 4-3, 4-4, 4-5, and subtraction within 10. 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

that decomposing into more equal shares creates smaller shares. (19-1, 19-2, 19-3)

### Topic 20- Adding and Subtracting with Tens and Ones

**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. (12-1, 20-1, 20-2, 20-3, 20-4, 20-5, 20-6, 20-7)

**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 and tens, ones and ones; and sometimes it is necessary to compose a ten. (20-1, 20-2, 20-3, 20-4)

**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. (20-5, 20-6)

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<p><u>Additional Notes</u>  <i>Topic 9- Patterns (Not in CC)</i>  <i>Topic 18 – Data and Graphs – Integrate in all 4 quarters</i>  <b>1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. (18-1, 18-2, 18-3, 18-5, 18-6, 18-7, 18-8)</b>  <i>Topic 13- Counting Money (moved to 2<sup>nd</sup> grade)</i></p> <p><b>enVisions: 1<sup>st</sup> Grade CC Supplemental Lesson</b>  <a href="http://media.pearsoncmg.com/curriculum/math/envision2012/cc_support/G1/enVisionMATH_G1.html">http://media.pearsoncmg.com/curriculum/math/envision2012/cc_support/G1/enVisionMATH_G1.html</a></p>		<p>known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). (16-1, 16-2, 16-3, 16-5, 16-6)</p> <p><b>1.OA.8</b> Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = <math>\diamond</math> - 3, 6 + 6 = <math>\diamond</math>. (16-3, 16-5, 16-6)</p> <p><b>Topic 17 Subtraction Facts to 18</b></p> <p><b>1.OA.1</b> Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (17-5)</p> <p><b>1.OA.4</b> Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8. (17-2, 17-3, 17-4)</p> <p><b>1.OA.6</b> Add and subtract within 20, demonstrating fluency for addition 4-1, 4-2, 4-3, 4-4, 4-5, and subtraction within 10. 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). (17-1, 17-2, 17-3, 17-4)</p> <p><b>1.OA.8</b> Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = <math>\diamond</math> - 3, 6 + 6 = <math>\diamond</math>. (17-2, 17-3, 17-4)</p>	
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## NC DPI Resources for the Common Core

<http://maccss.ncdpi.wikispaces.net/First+Grade>

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### Incorporating the 8 Mathematical Practices

- Mathematical Practice 1: Make sense of problems and persevere in solving them  
(Example Lessons 1-9, 2-11, 3-5, 4-10, 6-7, 7-8, 8-6, 9-3, 11-5, 11-6, 12-7, 13-4, 14-7, 16-4)
- Mathematical Practice 2: Reason abstractly and quantitatively  
(Example Lessons 2-3, 2-9, 3-3, 6-7, 7-3, 7-7, 8-3, 9-3, 12-7, 14-4, 15-8)
- Mathematical Practice 3: Construct viable arguments and critique the reasoning of others  
(Example Lessons 2-3, 4-7, 7-4, 8-1, 8-7, 12-3, 14-3 )
- Mathematical Practice 4: Model with mathematics  
(Examples Lessons 1-5, 2-1, 1-9, 4-4, 5-2, 6-6, 7-4, 8-9, 9-2, 10-1, 11-4, 12-5, 16-2)
- Mathematical Practice 5: Use appropriate tools strategically  
(Example Lessons 8-6, 14-4, 14-5, 14-8, 14-11, 15-3)
- Mathematical Practice 6: Attend to precision  
(Example Lessons 1-3, 3-2, 7-3, 8-2, 11-1, 15-3, 16-7)
- Mathematical Practice 7: Look for and make use of structure  
(Example Lessons 1-4, 5-1, 6-3, 7-4, 10-6, 12-3, 16-1 )
- Mathematical Practice 8: Look for and express regularity in repeated reasoning  
(Example Lessons 3-6, 8-7, 13-5, 16-7)

### How will we know they've learned it?

#### Mandatory Assessments

- Universal Screening - AIMSweb – Oral Counting, Number Identification, Quantity Discrimination, Missing Number, M-COMP
- Benchmarking - DPI Mid Year and Summative Assessments
- Content Writing for Math: 1<sup>st</sup> Grade Portfolio

#### Optional Assessments

- DPI: 1<sup>st</sup> Grade Instructional Assessment Tasks for the CCSS in Mathematics <http://commoncoretasks.ncdpi.wikispaces.net/First+Grade+Tasks>
- enVisions Placement Assessment (determines immediate intervention needs)
- End of Topic or School Based Grade Level Assessment
- enVisions Alternate Assessments

### What will we do if they have already learned it?

#### Use of AIMSweb benchmarking, enVisions Placement Assessment, and formative assessments

- enVisions Advanced Planning and Enrichment Masters
- Math Superstars
- Flexible Grouping
- Project Based Learning
- Curriculum Compacting
- Specific Skill Enrichment

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### What will we do if they haven't learned it?

#### Use of Universal Screening, Benchmarking, and other formative assessments

- enVisions Intervention Planning and Re-teaching Masters
- Specific Skill Intervention (i.e. number games)
- PROGRESS MONITOR all Interventions
- Flexible Grouping
- Peer tutoring
- PEP/SST
- After school/volunteer tutoring