



Center City  
Public Charter Schools

Character, Excellence, Service

**2015 - 2016 Scope and Sequence**  
**Mathematics**  
*1<sup>st</sup> Grade*



Quarter	Unit	Pacing	Topic
Quarter 1	1	44 Days	<b>Becoming a 1<sup>st</sup> Grade Mathematician: Exploring Numbers to 10</b>
Quarter 2	2	35 Days	<b>Applying Place Value Strategies to Add and Subtract Within 20</b>
	3	16 Days	<b>Measuring and Comparing Lengths</b>
Quarter 3	4	35 Days	<b>Applying Place Value Strategies to Add and Subtract Within 40</b>
Quarter 4	5	15 Days	<b>Composing and Partitioning Shapes</b>
	6	30 Days	<b>Applying Place Value Strategies to Add and Subtract Within 100</b>

**End of Year Fluency Expectations**


*According to the PARCC Model Content Framework, 1<sup>ST</sup> grade scholars must be able demonstrate their ability to fluently:*

- I. Mentally add and Subtract within 10
- II. Evaluate Addition and Subtraction Equations
- III. Determine the Unknown in Addition and Subtraction Equations
- IV. Mentally Find 10 More or 10 Less

**Becoming a 1<sup>st</sup> Grade Mathematician:  
Exploring Numbers to 10  
44 Days**

Common Core State Standards	Fluency
<p style="text-align: center;"> <b>Major 1<sup>st</sup> Grade Content</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.</p> <p><b>1.OA.3:</b> Apply properties of operations as strategies to add and subtract.<sup>2</sup> <i>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.)</i></p> <p><b>1.OA.4:</b> Understand subtraction as an unknown-addend problem. <i>For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8.</i></p> <p><b>1.OA.5:</b> Relate counting to addition and subtraction</p> <p><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>.</p> <p><b>1.OA.8:</b> Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = _ - 3</math>, <math>6 + 6 = _</math>.</i></p> <p style="text-align: center;"> <b>Supporting Standards</b></p> <p><b>1.MD.4:</b> 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.</p>	<p><b>Level I</b> Writing Numbers to 20</p> <p><b>Level II</b> Add and Subtract within 5</p> <p><b>Level III</b> Add and Subtract within 10</p>

## Unit 2: Applying Place Value Strategies to Add and Subtract within 20 35 Days

Common Core State Standards	Fluency
<p style="text-align: center;"> <b>Major 1<sup>st</sup> Grade Content</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</p> <p><b>1.OA.2:</b> 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.</p> <p><b>1.OA.3:</b> Apply properties of operations as strategies to add and subtract.<sup>2</sup> <i>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.)</i></p> <p><b>1.OA.4:</b> Understand subtraction as an unknown-addend problem. <i>For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8.</i></p> <p><b>1.OA.6:</b> Add and subtract within 20, demonstrating fluency for addition 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>).</p> <p><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:</p> <p style="padding-left: 40px;"><b>1.NBT.2a:</b> 10 can be thought of as a bundle of ten ones — called a "ten."</p> <p style="padding-left: 40px;"><b>1.NBT.2b:</b> The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</p> <p style="padding-left: 40px;"><b>1.NBT.2c:</b> 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>	<p><b>Level I</b> Adding and Subtracting within 5</p> <p><b>Level II</b> Adding and Subtracting within 10</p> <p><b>Level III</b> Determine if an Addition or Subtraction Equation is True or False</p>

**Unit 3: Measuring and Comparing Lengths**  
**16 Days**

**Common Core State Standards**

**Fluency**

 **Major 1<sup>st</sup> Grade Content**

**1.MD.1:** Order three objects by length; compare the lengths of two objects indirectly by using a third object.

**1.MD.2:** 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.*

**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.

 **Supporting Standards**

**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.

**Level I**

Add and Subtract within 10


**Level II**

Determine if an Addition or Subtraction Equation is True or False

**Level III**

Determine the Unknown Whole Number in an Addition or Subtraction Equation

## Unit 4: Applying Place Value Strategies to Add and Subtract within 40 35 Days

Common Core State Standards	Fluency
<p style="text-align: center;"> <b><u>Major 1<sup>st</sup> Grade Content</u></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.</p> <p><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.</p> <p><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:</p> <p style="padding-left: 40px;"><b>1.NBT.2a:</b> 10 can be thought of as a bundle of ten ones — called a "ten."</p> <p style="padding-left: 40px;"><b>1.NBT.2b:</b> The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</p> <p style="padding-left: 40px;"><b>1.NBT.2c:</b> The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens</p> <p><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>.</p> <p><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 used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes needs to compose a ten.</p> <p><b>1.NBT.5:</b> 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><b>1.NBT.6:</b> 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</p>	<p><b><u>Level I</u></b> Add and Subtract within 10</p> <p><b><u>Level II</u></b> Determine if an Addition or Subtraction Equation is True or False</p> <p><b><u>Level III</u></b> Determine the Unknown Whole Number in an Addition or Subtraction Equation</p> <p><b><u>Level IV</u></b> Mentally Find 10 More or 10 Less</p>

**Unit 5: Composing and Partitioning Shapes**  
**20 Days**

**Common Core State Standards**

**Fluency**



**Additional Standards:**

**1.MD.3:** Tell and write time in hours and half-hours using analog and digital clocks.

**1.G.1:** 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.

**1.G.2:** 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.

**1.G.3:** 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 that decomposing into more equal shares creates smaller shares.

**Level I**

Determine if an Addition or Subtraction Equation is True or False

**Level II**

Determine the Unknown Whole Number in an Addition or Subtraction Equation

**Level III**

Mentally Find 10 More or 10 Less

## Unit 6: Applying Place Value Strategies to Add and Subtract within 100 30 Days

### Common Core State Standards

### Fluency

#### Major 1<sup>st</sup> Grade Content

**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:

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

**1.NBT.2b:** The numbers from 11 to 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).

**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  $<$ .

**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.

**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.

**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.

#### **Level I**

Determine the Unknown Whole Number in an Addition or Subtraction Equation

#### **Level II**

Mentally Find 10 More or 10 Less

#### **Level III**

Compare Two-Digit Numbers