

April 29, 2013

## QUARTER 1

### UNIT 1: APPLYING PLACE VALUE TO ADDITION, SUBTRACTION AND ROUNDING

#### STANDARDS FOR MATHEMATICAL CONTENT:

3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.

3.NBT.2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

3.OA.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

#### CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:

Practice #6 – Attend to precision.

Practice #7 – Look for and make use of structure

#### SUGGESTED DAYS

15 DAYS

#### GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS

UNIT 1 (LESSONS 1.1, 1.2, 1.8, 1.12) AND UNIT 2 (LESSONS 2.1, 2.2, 2.3, 2.9)

#### COMMENTS:

Adding and subtracting using standard algorithms as well as rounding/estimating to assess reasonableness of answers is the focus in this unit.

Addition and subtraction fact fluency through 20 is expected for Quarter 1.

Building multiplication fact fluency.

Quarter 1 - 0,1, and 10's

Quarter 2 - 2,3,4, and 5's

Quarter 3 - 6 and 7's

Quarter 4 - 8 and 9's

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**UNIT 2: APPLYING ADDITION AND SUBTRACTION TO PROBLEM SOLVING**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.OA.8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

3.MD.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice #1 – Make sense of problems and persevere in solving them.

Practice #5 – Use appropriate tools strategically.

**SUGGESTED DAYS**

15 DAYS

**GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS**

UNIT 1 (LESSONS 1.11) UNIT 2 (LESSONS 2.4, 2.5, 2.6, 2.8)

UNIT 7 (LESSON 7.7)

**COMMENTS:**

Using addition and subtraction to solve problems (including measurement problems and graphs) is the focus of this unit.

Addition and subtraction fact fluency through 20 is expected for Quarter 1.

Building multiplication fact fluency.

Quarter 1 - 0,1, and 10's

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<b>UNIT 3: TELLING TIME AND ELAPSED-TIME PROBLEM SOLVING</b>
<b>STANDARDS FOR MATHEMATICAL CONTENT:</b>  3.MD.1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
<b>CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:</b>  Practice #2 – Reason abstractly and quantitatively.
<b>SUGGESTED DAYS</b> 10+ DAYS
<b>GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS</b> <b>UNIT 1 (LESSON 1.13)</b>  Comments:  This is an on-going skill to be developed throughout the school year and will require supplementation.  Addition and subtraction fact fluency through 20 is expected for Quarter 1.  Building multiplication fact fluency. Quarter 1 - 0,1, and 10's

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**UNIT 4: MEASURING AREA AND RELATING AREA TO MULTIPLICATION**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.MD.5. Recognize area as an attribute of plane figures and understand concepts of area measurement.

- a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.
- b. A plane figure which can be covered without gaps or overlaps by  $n$  unit squares is said to have an area of  $n$  square units.

3.MD.6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

3.MD.7. Relate area to the operations of multiplication and addition.

- a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
- b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
- c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths  $a$  and  $b + c$  is the sum of  $a \times b$  and  $a \times c$ . Use area models to represent the distributive property in mathematical reasoning.
- d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice #6 – Attend to precision.

**SUGGESTED DAYS**

5 DAYS

**GENERAL ALIGNMENT TO EVERYDAY MATHEMATICS**

UNIT 3 (LESSONS 3.6, 3.7, 3.8)

**COMMENTS:**

Relating multiplication to area is the focus of this unit.

Addition and subtraction fact fluency through 20 is expected for Quarter 1.

Building multiplication fact fluency.

Quarter 1 - 0,1, and 10's

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## QUARTER 2

<p><b>UNIT 5: DEVELOPING MULTIPLICATION STRATEGIES</b></p>
<p><b>STANDARDS FOR MATHEMATICAL CONTENT:</b></p> <p>3.OA.1. Interpret products of whole numbers, e.g., interpret <math>5 \times 7</math> as the total number of objects in 5 groups of 7 objects each. <i>For example, describe a context in which a total number of objects can be expressed as <math>5 \times 7</math>.</i></p> <p>3.OA.5. Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) <i>Examples: If <math>6 \times 4 = 24</math> is known, then <math>4 \times 6 = 24</math> is also known. (Commutative property of multiplication.) <math>3 \times 5 \times 2</math> can be found by <math>3 \times 5 = 15</math>, then <math>15 \times 2 = 30</math>, or by <math>5 \times 2 = 10</math>, then <math>3 \times 10 = 30</math>. (Associative property of multiplication.) Knowing that <math>8 \times 5 = 40</math> and <math>8 \times 2 = 16</math>, one can find <math>8 \times 7</math> as <math>8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56</math>. (Distributive property.)</i></p> <p>3.OA.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i></p> <p>3.NBT.3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., <math>9 \times 80</math>, <math>5 \times 60</math>) using strategies based on place value and properties of operations.</p>
<p><b>CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:</b></p> <p>Practice #4 – Model with mathematics.</p> <p>Practice #7 – Look for and make use of structure.</p> <p>Practice #8- Look for an express regularity in repeated reasoning.</p>
<p><b>SUGGESTED DAYS</b></p> <p>15 DAYS</p>
<p><b>GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS</b></p> <p>UNIT 4 (LESSONS 4.1, 4.2, 4.5, 4.7,)</p> <p>UNIT 7 (LESSONS 7.1, 7.2, 7.3, 7.6, 7.8)</p> <p>UNIT 9 (LESSON 9.1, 9.2)</p>
<p><b>COMMENTS:</b></p> <p>Interpreting products of whole numbers is the focus of this unit (e.g., interpreting <math>5 \times 7</math> as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as <math>5 \times 7</math>).</p> <p>In this unit, students also use the commutative property of multiplication as a strategy to multiply. (Ex: <math>3 \times 5 = 15</math> and <math>5 \times 3 = 15</math>) and learn to multiply one digit whole numbers by 10.</p> <p>Addition and subtraction fact fluency through 20 is expected from Quarter 1.</p> <p>Building multiplication fact fluency. Quarter 2 - 2,3,4, and 5's</p>

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**UNIT 6: EXPLORING DIVISION AND RELATING DIVISION TO MULTIPLICATION**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.OA.2. Interpret whole-number quotients of whole numbers, e.g., interpret  $56 \div 8$  as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as  $56 \div 8$ .*

3.OA.4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations  $8 \times ? = 48$ ,  $5 = \square \div 3$ ,  $6 \times 6 = ?$ .*

3.OA.6. Understand division as an unknown-factor problem. *For example, find  $32 \div 8$  by finding the number that makes 32 when multiplied by 8.*

3.OA.7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ ) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice #4– Model with mathematics.

Practice #6 – Attend to precision.

**SUGGESTED DAYS**

10 DAYS

**GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS**

UNIT 4 (LESSONS 4.3, 4.4, 4.6, 4.8)

UNIT 7 (LESSON 7.6)

UNIT 9 (LESSON 9.7)

**COMMENTS:**

Building multiplication fact fluency.  
Quarter 2 - 2,3,4, and 5's

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**UNIT 7: PROBLEM SOLVING WITH PERIMETER AND AREA**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.MD.8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice # 3 –Construct viable arguments and critique the reasoning of others.

**SUGGESTED DAYS:**

10 DAYS

**GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS:**

UNIT 3 (LESSONS 3.4, 3.6)

**Comments:**

Building multiplication fact fluency.  
Quarter 2 - 2,3,4, and 5's

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## QUARTER 3

### UNIT 8: DEVELOPING AND UNDERSTANDING FRACTIONAL QUANTITIES

#### STANDARDS FOR MATHEMATICAL CONTENT:

3.G.2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as  $1/4$  of the area of the shape.*

3.NF.1. Understand a fraction  $1/b$  as the quantity formed by 1 part when a whole is partitioned into  $b$  equal parts; understand a fraction  $a/b$  as the quantity formed by  $a$  parts of size  $1/b$ .

3.NF.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

- a. Represent a fraction  $1/b$  on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into  $b$  equal parts. Recognize that each part has size  $1/b$  and that the endpoint of the part based at 0 locates the number  $1/b$  on the number line.
- b. Represent a fraction  $a/b$  on a number line diagram by marking off  $a$  lengths  $1/b$  from 0. Recognize that the resulting interval has size  $a/b$  and that its endpoint locates the number  $a/b$  on the number line.

#### CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:

Practice #1 – Make sense of problems and persevere in solving them.

Practice #2 – Reason abstractly and quantitatively.

#### SUGGESTED DAYS:

15 DAYS

#### GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS:

UNIT 8 (LESSONS 8.1, 8.2, 8.3, 8.4)

Comments:

Building multiplication fact fluency.

Quarter 3 - 6 and 7's



**UNIT 9: COMPARING FRACTIONS WITH MODELS AND REASONING**

**STANDARDS FOR MATHEMATICAL CONTENT:**

- 3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
- Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
  - Recognize and generate simple equivalent fractions, e.g.,  $1/2 = 2/4$ ,  $4/6 = 2/3$ . Explain why the fractions are equivalent, e.g., by using a visual fraction model.
  - Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form  $3 = 3/1$ ; recognize that  $6/1 = 6$ ; locate  $4/4$  and 1 at the same point of a number line diagram.*
  - Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual fraction model.

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice # 5 – Use appropriate tools strategically.

Practice # 6 – Attend to precision.

Practice # 7 – Look for and make use of structure.

**SUGGESTED DAYS:**

15 DAYS

**GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS:**

UNIT 8 (LESSONS 8.5, 8.6, 8.7, 8.8)

Comments:

Building multiplication fact fluency.

Quarter 3 - 6 and 7's

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**UNIT 10: MEASURING WITH FRACTIONAL AMOUNTS**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.MD.4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice # 4 – Model with mathematics.

Practice # 6 – Attend to precision.

**SUGGESTED DAYS:**

10 DAYS

**ROUGH ALIGNMENT TO EVERYDAY MATHEMATICS:**

UNIT 3 (LESSON 3.2, 3.3)

**Comments:**

Building multiplication fact fluency.

Quarter 3 - 6 and 7's

? Add elapsed time

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**UNIT 11: REASONING WITH SHAPES AND THEIR ATTRIBUTES**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.G.1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice # 3 – Construct viable arguments and critique the reasoning of others.

Practice # 6 – Attend to precision.

**SUGGESTED DAYS:**

10 DAYS

**GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS:**

UNIT 6 (LESSONS 6.4, 6.5, 6.6)

**Comments:**

Building multiplication fact fluency.

Quarter 3 - 6 and 7's

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## QUARTER 4

<b>UNIT 12: PROBLEM SOLVING INVOLVING MASS AND VOLUME</b>
<b>STANDARDS FOR MATHEMATICAL CONTENT:</b>  3.MD.2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as $\text{cm}^3$ and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. Excludes multiplicative comparison problems (problems involving notions of “times as much”; see Table 2).
<b>CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:</b>  Practice # 5 – Use appropriate tools strategically
<b>SUGGESTED DAYS:</b> 10 DAYS
<b>ROUGH ALIGNMENT TO EVERYDAY MATHEMATICS:</b> UNIT 10 (LESSONS 10.2, 10.3, 10.4, 10.5)  Comments:  Building multiplication fact fluency. Quarter 4 - 8 and 9’s

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**UNIT 13: APPLYING MULTIPLICATION AND DIVISION TO PROBLEM SOLVING**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.OA.3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

3.OA.8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations)).

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice # 1 – Make sense of problems and persevere in solving them.

Practice # 2 – Reason abstractly and quantitatively.

**SUGGESTED DAYS:**

10 DAYS

**GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS:**

UNIT 4 (LESSON 4.3)

UNIT 9 (LESSON 9.7, 9.8)

**Comments:**

Building multiplication fact fluency.

Quarter 4 - 8 and 9's

April 29, 2013

**UNIT 14: DEVELOPING COMPUTATIONAL FLUENCY**

**STANDARDS FOR MATHEMATICAL CONTENT:**

3.NBT.2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

3.OA.7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ ) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

**CONSIDER HIGHLIGHTING THE FOLLOWING MATHEMATICAL PRACTICES:**

Practice # 3 – Construct viable arguments and critique the reasoning of others.

Practice # 4 – Model with mathematics.

**SUGGESTED DAYS:**

10 DAYS

**GENERAL ALIGNMENT WITH EVERYDAY MATHEMATICS:**

UNIT 2 (LESSONS 2.1)

UNIT 4 (LESSONS 4.5, 4.6, 4.7, 4.8)

UNIT 7 (LESSON 7.3)

**Comments:**

Building multiplication fact fluency.

Quarter 4 - 8 and 9's