

JCS Math – Third Grade

First Quarter 2017-2018

Week 1...Place Value and Whole Number Computation

Mathematical Practices(MP1-MP8) – Begin to set-up classroom and problem solving routines (ongoing)

3.NBT.A.1 Round whole numbers to the nearest 10 or 100 using understanding of place value. (Revised)

Week 2... Place Value and Whole Number Computation Continued

3.NBT.A.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. (Revised) (Fluency expected by end of 4th 9 weeks.)

Connect to 3.OA.A.9 Identify arithmetic patterns (including patterns in the addition table or ~~multiplication table~~) and explain them using properties of operations. For example, analyze patterns in the multiplication table and observe that 4 times a number is always even (because $4 \times 6 = (2 \times 2) \times 6 = 2 \times (2 \times 6)$, which uses the associative property of multiplication) (See Table 3 – Properties of Operations). (Revised) (Focus on Addition-Not assessed in 1st Q)

Week 3... Place Value and Whole Number Computation Continued

3.NBT.A.1 (Revised), 3.NBT.A.2 (Revised)

Week 4... Place Value and Whole Number Computation Continued

3.NBT.A.1 (Revised), 3.NBT.A.2 (Revised)

Start 3.OA.D.8 Solve two-step contextual problems using the ~~four~~ operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess reasonableness of the answer using mental computation and estimation strategies including rounding. (See Table 1 – Addition and Subtraction Situations and Table 2 – Multiplication and Division Situations). (Revised) (Focus on Add/Subtract-Not assessed in 1st Q)

Connect to 3.MD.B.3 Draw a scaled pictograph 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 graphs. (Revised) (Not assessed in 1st Q)

Week 5... Place Value and Whole Number Computation Continued

3.NBT.A.1 (Revised), 3.NBT.A.2 (Revised)

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

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First Quarter 2017-2018 Continued

Week 6... Introduction to Multiplication.

3.OA.A.3 Multiply and divide within 100 to solve contextual problems with unknowns in all positions, in situations involving equal groups, arrays, and measurement quantities using strategies based on place value, the properties of operations, and the relationship between multiplication and division (e.g., contexts including computations such as $3 \times ? = 24$, $6 \times 16 = ?$, $? \div 8 = 3$, or $96 \div 6 = ?$) (**See Table 2 – Multiplication and Division Situations**). (**Revised**)

3.OA.A.1 Interpret the factors and products in whole numbers multiplications equations (e.g., 4×7 is 4 groups of 7 objects with a total of 28 objects or 4 strings measuring 7 inches each with a total of 28 inches.) (**Revised**)

Connect to 3.OA.A.9 (Revised) (Focus on Multiplication-Not assessed in 1st Q)

Week 7... Multiplication Continued

3.OA.A.3 (Revised)

3.OA.A.1 (Revised)

3.OA.A.2 Interpret the dividend, divisor, and quotient in whole number division equations (e.g., $28 \div 7$ can be interpreted as 28 objects divided into 7 equal groups with 4 objects in each group or 28 objects divided so there are 7 objects in each of 4 equal groups). (**Revised**) (**Division not assessed in 1st Q**)

Week 8... Multiplication Continued

3.OA.A.3 (Revised), **3.OA.A.1(Revised)**, **3.OA.A.2 (Revised)**

Start 3.OA.A.4 Determine unknown whole number in a multiplication or division equation by relating 3 whole numbers within 100. *For example, determine the unknown number that makes the equation true in each of the equations: $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$.* (**Revised**) (**Focus on Multiplication**)

Connect to 3.OA.B.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.* (**Division not assessed in 1st Q**)

Week 9... Multiplication Continued

Start 3.OA.C.7 Fluently multiply and divide within 100 using strategies between multiplication and division. (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 and related division facts. (**Revised**)

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

Updated May 19, 2017

JCS Math – Third Grade

Second Quarter 2017-2018

Mathematical Practices (MP1-MP8) Continued

Week 1... Multiplication and Division

3.OA.B.5 Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) *Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known (Commutative property of multiplication). $3 \times 5 \times 2$ can be solved by $(3 \times 5) \times 2$ or $3 \times (5 \times 2)$ (Associative property of multiplication). One way to find 8×7 is by using $8 \times (5 + 2) = (8 \times 5) + (8 \times 2)$. By knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, then $8 \times 7 = 40 + 16 = 56$. (Distributive property of multiplication over addition).* **(Revised)**

3.OA.A.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table,) and explain them using properties of operations. *For example, analyze patterns in the multiplication table and observe that 4 times a number is always even (because $4 \times 6 = (2 \times 2) \times 6 = 2 \times (2 \times 6)$), which uses the associative property of multiplication)* **(See Table 3 – Properties of Operations). (Revised)**

Week 2... Multiplication and Division Continued

3.OA.A.1 (Revised), 3.OA.A.2 (Revised), 3.OA.A.3 (Revised), 3.OA.A.4 (Revised), 3.OA.B.5 (Revised)
3.OA.C.7 Fluently multiply and divide within 100 using strategies between multiplication and division. (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 and related division facts. **(Revised)**

3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.

3.OA.B.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.*

Week 3... Multiplication and Division Continued

3.OA.A.1 (Revised), 3.OA.A.2 (Revised), 3.OA.A.3 (Revised), 3.OA.A.4 (Revised), 3.OA.B.5 (Revised), 3.OA.B.6, 3.OA.C.7 (Revised)

Week 4... Multiplication and Division Continued

3.OA.A.1 (Revised), 3.OA.A.2 (Revised), 3.OA.A.3 (Revised), 3.OA.A.4 (Revised), 3.OA.B.5 (Revised), 3.OA.B.6, 3.OA.C.7 (Revised)

Week 5... Finish Multiplication and Division

3.OA.D.8 Solve two-step contextual problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess reasonableness of the answer using mental computation and estimation strategies including rounding. **(See Table 1 – Addition and Subtraction Situations and Table 2 – Multiplication and Division Situations). (Revised) (Not assessed in 2nd Q)**

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

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JCS Math – Third Grade

Second Quarter 2017-2018 Continued

Week 6... Area, Perimeter and Multiplication Measurement

3.MD.C.5 Recognize that plane figures have an area and understand concepts of area measurement. **(Revised)**

3.MD.C.5.a Understand that 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. **(Revised)**

3.MD.C.5.b Understand 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. **(Revised)**

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

Week 7... Area, Perimeter and Multiplication Measurement Continued

3.MD.C.6

Thanksgiving Week

Week 8... Area, Perimeter and Multiplication Measurement Continued

3.MD.C.7 Relate area of rectangles to the operations of multiplication and addition. **(Revised)**

3.MD.C.7.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.

3.MD.C.7.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.

3.MD.C.7.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. *For example, in a rectangle with dimensions 4 by 6, students can decompose the rectangle into 4×3 and 4×3 to find the total area of 4×6 . See Table 3 – Properties of Operations)* **(Revised)**

3.MD.C.7.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.

Week 9... Area, Perimeter and Multiplication Measurement Continued

3.MD.D.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.

Week 10...Finish Area, Perimeter and Multiplication Measurement

3.OA.C.7 Fluently multiply and divide within 100 using strategies between multiplication and division. (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 and related division facts. **(Revised)**

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

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Third Quarter 2017-2018

Mathematical Practices (MP1-MP8) Continued

Week 1...Developing Fraction* Sense

3.NF.A.1 Understand a fraction $1/b$, as the quantity formed by 1 part when a whole is partitioned into b equal parts (unit fraction); understand a fraction a/b as the quantity formed by a parts of size $1/b$. For example $3/4$ represents the quantity formed by 3 equal parts of size $1/4$.) **(Revised)**

Connect to 3.G.A.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. (Assessed with 3.NF.A.1)

***Limit denominators of fractions to 2, 3, 4, 6, and 8**

Week 2... Developing Fraction* Sense Continued

3.G.A.2 and 3.NF.A.1 (Revised)

Week 3... Developing Fraction* Sense Continued

3.NF.A.2 Understand a fraction as a number on the number line. Represent fractions on a number line diagram. **(Revised)**

3.NF.A.2.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. For example, on a number line from 0 to 1, students can partition it into 4 equal parts and recognize that each part represents a length of $1/4$ and the first part has an endpoint at $1/4$ on the number line. **(Revised)**

3.NF.A.2.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. For example, $5/3$ is a distance from 0 when there are 5 iterations of $1/3$. **(Revised)**

Connect to 3.MD.B.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. **(Not assessed 3rd Q)**

Week 4...Finish Developing Fraction* Sense

3.NF.A.2 (Revised), 3.NF.A.2.a (Revised), 3.NF.A.2.b (Revised)

Week 5... Fractions* as Quantities

3.NF.A.3 Explain equivalence of fractions and compare fractions by reasoning about their size. **(Revised)**

3.NF.A.3.a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

3.NF.A.3.b Recognize and generate simple equivalent fractions (e.g., $1/2 = 2/4$, $4/6 = 2/3$) and explain why the fractions are equivalent using a visual fraction model. **(Revised)**

3.NF.A.3.c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. For example, 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. **(Revised)**

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

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Third Quarter 2017-2018 Continued

Week 6... Fractions* as Quantities Continued

3.NF.A.3 (Revised), 3.NF.A.3.a, 3.NF.A.3.b (Revised), 3.NF.A.3.c (Revised)

Week 7... Fractions* as Quantities Continued

3.NF.A.3 (Revised), 3.NF.A.3.a, 3.NF.A.3.b (Revised), 3.NF.A.3.c (Revised)

3.NF.A.3.d. 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. Use the symbols $>$, $=$, or $<$ to show the relationship and justify the conclusions. (Revised)

Week 8... Fractions* as Quantities Continued

3.NF.A.3 (Revised), 3.NF.A.3.a, 3.NF.A.3.b (Revised), 3.NF.A.3.c (Revised), 3.NF.A.3.d (Revised)

Week 9... Fractions* as Quantities Continued

3.NF.A.3, 3.NF.A.3.a, 3.NF.A.3.b, 3.NF.A.3.c, and 3.NF.A.3.d

Connect to 3.MD.B.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. (Not assessed 3rd Q)

Week 10... Finish Fractions* as Quantities

Start 3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve contextual problems involving addition and subtraction of time intervals in minutes. *For example, students may use a number line to determine the difference between the start time and end time of lunch.* (Revised) (Not assessed in 3rd Q)

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

Updated May 19, 2017

JCS Math – Third Grade

Fourth Quarter 2017-2018

Mathematical Practices (MP1-MP8) Continued

Week 1...Measurement and Data

3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve contextual problems involving addition and subtraction of time intervals in minutes. *For example, students may use a number line to determine the difference between the start time and end time of lunch.* **(Revised)**

Week 2... Measurement and Data Continued

3.MD.A.2 Measure the mass and liquid volumes using standard units of grams (g), kilograms (kg), milliliters (ml), and liters (l). Estimate the mass of objects and liquid volume using benchmarks. *For example, a large paper clip is about one gram, so a box of about 100 large clips is about 100 grams. Therefore, ten boxes would be about 1 kilogram.* **(Revised)**

Week 3... Finish Measurement and Data

3.MD.B.3 Draw a scaled pictograph 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 graphs. **(Revised)**

3.MD.B.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.

Week 4...Geometry

3.G.A.3 Determine if a figure is a polygon. **(New)**

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

Week 5...Finish Geometry

3.G.A.3 (New), 3.G.A.1 (Revised)

Week 6... Strengthening and Extending Fluency & Problem Solving

3.OA.C.7 Fluently multiply and divide within 100 using strategies between multiplication and division. (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 and related division facts. **(Revised)**

3.NBT.A.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. **(Revised)**

3.OA.D.8 Solve two-step contextual problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess reasonableness of the answer using mental computation and estimation strategies including rounding. **(Revised) (See Table 1 – Addition and Subtraction Situations and Table 2 – Multiplication and Division Situations).**

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

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Fourth Quarter 2017-2018 Continued

Week 7... Strengthening and Extending Fluency & Problem Solving
3.OA.C.7 (Revised), 3.NBT.A.2 (Revised), and 3.OA.D.8 (Revised)

Week 8... Strengthening and Extending Fluency & Problem Solving
3.OA.C.7 (Revised), 3.NBT.A.2 (Revised), and 3.OA.D.8 (Revised)

Week 9... Strengthening and Extending Fluency & Problem Solving
3.OA.C.7 (Revised), 3.NBT.A.2 (Revised), and 3.OA.D.8 (Revised)

Week 10... Strengthening and Extending Fluency & Problem Solving
3.OA.C.7 (Revised), 3.NBT.A.2 (Revised), and 3.OA.D.8 (Revised)

Fluency Standards to be mastered by the 4th nine weeks:

3.OA.C.7 Fluently multiply and divide within 100; know from memory all products of two one-digit numbers and related division facts.

3.NBT.A.2 Add and Subtract within 1000.

Updated May 19, 2017