

Midfield City Schools

MES 3rd Grade

Math Pacing Guide

Year 2017-2018

Operations and Algebraic Thinking [OA]

- Represent and solve problems involving multiplication and division.
- Understand properties of multiplication and the relationship between multiplication and division.
- Multiply and divide within 100.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Number and Operations in Base Ten [NBT]

- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations – Fractions [NF]

- Develop understanding of fractions as numbers.

Measurement and Data [MD]

- Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
- Represent and interpret data.
- Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
- Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Geometry [G]

- Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
Operations and Algebraic Thinking					
September	3.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. [3-OA1]	Go Math Ch3- Less1-2	Array, equal groups, factor, multiply, product, commutative property of multiplication, identity property of multiplication, zero property of multiplication	I can explain the meaning of the product.	DOK 2
November	3.2 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. [3-OA2]	Go Math- Ch6 Less-2-4	Dividend, divisor, quotient, inverse operations, related facts, divide	I can explain the meaning of the quotient.	DOK 2
September November	3.3 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 (See Appendix A, Table 2.) [3-OA3]	Go Math- Ch3- Less 3 & 5 Ch6- Less 1, 5, 6	Array, equal groups, factor, multiply, product, commutative property of multiplication, identity property of multiplication, zero property of multiplication Dividend, divisor, quotient, inverse operations, related	I can solve multiplication word problems within 100 involving equal groups, arrays, and measurement quantities. I can solve division word problems within 100 involving equal groups, arrays, and measurement quantities.	DOK 1

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
			facts, divide		
November	3.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. [3-OA4]	Go Math- Ch4-Less4, 6 Ch4- Less 1-3 Ch5- Less 2 Ch7- Less 8	Associative Property of Multiplication, Distributive Property of Multiplication, multiple, equation, array, order of operations	I can find the unknown whole number (variable) in a multiplication equation. I can find the unknown whole number (variable) in a division equation.	DOK 1
September October November	3.5 Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) [3-OA5] (September- Multiplication)	Go Math- Ch3- Less6-7 Ch4- Less 4 & 6 Ch6- Less9	Array, equal groups, factor, multiply, product, commutative property of multiplication, identity property of multiplication, zero property of multiplication Associative Property of Multiplication, Distributive Property of Multiplication, multiple, Dividend, divisor, quotient, inverse operations, related facts, divide	I can use the properties to multiply and divide. (Commutative, Associative, Distributive Property)	DOK 1

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
October November December	3.7 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. [3-OA7]	Go Math- Ch4- Less5, 8, 9 Ch6-Less8, Ch7- Less2, 4, 5, 6, 7, 9	Associative property of multiplication, distributive property of multiplication, multiple, dividend, divisor, quotient, inverse operations, related facts, divide, array, order of operations	I can fluently multiply and divide within 100 using strategies and properties. I can fluently recall my multiplication facts 0-9.	DOK 2
August (chapter1) October December	3.8 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-OA8]	Go Math- Ch1- Less12 Ch4- Less10, Ch7- Less 10-11	Estimate, compatible numbers, pattern, rounding, associative property of addition, commutative property of addition, identify property of addition, associative property of multiplication, distributive property of multiplication, multiple, array, order of operations	I can use any of the four operations to solve two-step word problems. I can represent the problem using an equation with a letter for the unknown. I can use mental math, estimation, and rounding to decide if my answer makes sense.	DOK 3
August (chapter1) October	3.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. [3-OA9]	Go Math- Ch1-Less1, Ch4-Less7, Ch5-Less1	Estimate, compatible numbers, pattern, rounding, associative property of addition, commutative property of addition, identify property of addition, associative property of multiplication, distributive property of multiplication,	I can find arithmetic (number) patterns in the addition and multiplication tables. I can explain these patterns.	DOK 3

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
			multiple, equation		
Numbers –Base Ten					
August	3.10 Use place value understanding to round whole numbers to the nearest 10 or 100. [3-NBT1]	Go Math- Ch1 Less2-3, Ch1-Less8	Estimate, compatible numbers, pattern, rounding, associative property of addition, commutative property of addition, identify property of addition	I can round whole numbers to the nearest 10 or 100.	DOK 1
August	3.11 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-NBT2]	Go Math- Ch1-Less4-7	Estimate, compatible numbers, pattern, rounding, associative property of addition, commutative property of addition, identify property of addition	I can add within 1000. I can subtract within 1000.	DOK 2
October	3.12 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-NBT3]	Go Math- Ch5-Less3-5	equation	I can multiply one-digit whole numbers by multiples of 10.	DOK 1
Number- Fractions					

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
December	3.13 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 and size $1/b$. [3-NF1]	Go Math-Ch8-Less1-4 Ch8-Less7-9	Denominator, equal parts, fraction, numerator, unit fraction, eighths, fourths, halves, sixths, thirds, whole	I can explain and show that a fraction is a part of a whole. I can explain and show the meaning of the numerator and denominator.	DOK 2
December	3.14 Understand a fraction as a number on the number line; represent fractions on a number line diagram. [3-NF2]	Go Math- Ch8 Less5	Denominator, equal parts, fraction, numerator, unit fraction, eighths, fourths, halves, sixths, thirds, whole	I can explain how a fraction is a number on a number line. I can represent fractions on a number line.	DOK 2
January	3.14.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. [3-NF2a]	Go Math- Ch8-Less5	Denominator, equal parts, fraction, numerator, unit fraction, eighths, fourths, halves, sixths, thirds, whole	I can divide a number line into equal intervals (parts) to represent fractions.	DOK 3
January	3.14.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. [3-NF2b]	Go Math- Ch8-Less5	Denominator, equal parts, fraction, numerator, unit fraction, eighths, fourths, halves, sixths, thirds, whole	I can place fractions on a number line that is divided into intervals.	DOK 3

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
February May	3.15 compare fractions by reasoning about their size. [3-NF3]	Go Math- Ch9-Less1-5	Equivalent fractions, equivalent, order, greater than, less than		DOK 2
January	3.15.a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. [3-NF3a]	Go Math-Ch9-Less9	Equivalent fractions, equivalent, order, greater than, less than	I can show two fractions as equivalent (equal) if they are the same size. I can show two fractions as equivalent (equal) if they are on the same point on a number line.	DOK 2
February	3.15.b. 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. [3-NF3b]	Go Math- Ch9-Less7	Equivalent fractions, equivalent, order, greater than, less than	I can recognize and show simple equivalent fractions.	DOK 3
February	3.15.c. Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers.[3-NF3c]	Go Math- Ch9-Less6	Equivalent fractions, equivalent, order, greater than, less than	I can write whole numbers as fractions and recognize that they are equivalent (equal).	DOK 1

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
February May	3.15.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. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model. [3-NF3d]	Go Math- Ch9-Less1-5	Equivalent fractions, equivalent, order, greater than, less than	I can compare two fractions with the same numerator or the same denominator using $<$, $>$, or $=$.	DOK 2
Measurement & Data					
February	3.16 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. [3-MD1]	Go Math- Ch10-Less1-5	AM, elapsed time, PM, minute, midnight, noon, liquid volume, liter, gram, kilogram, mass	I can tell time to the nearest minute. I can solve word problems using addition and subtraction of time in minutes.	DOK 1
February	3.17 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 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 Appendix A, Table 2). [3-MD2]	Go Math- Ch10-Less6	AM, elapsed time, PM, minute, midnight, noon, liquid volume, liter, gram, kilogram, mass	I can estimate and measure liquid volumes using liters. I can solve one-step word problems involving volume. I can estimate and measure masses of objects using grams and kilograms. I can solve one-step word problems involving mass.	DOK 2

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
September	3.18 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. [3-MD3]	Go Math- Ch2-Less1-6	Bar graph, data, frequency table, line plot, picture graph, key, scale	I can draw a scaled picture graph. I can solve one and two-step problems using the picture graph. I can draw a scaled bar graph. I can solve one and two-step problems using the bar graph.	DOK 1
February	3.19 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. [3-MD4]	Go Math- Ch2-Less7, Ch10-Less6	Bar graph, data, frequency table, line plot, picture graph, key, scale, AM, elapsed time, PM, minute, midnight, noon, liquid volume, liter, gram, kilogram, mass	I can measure and record lengths to the nearest half and fourth of an inch. I can use measurement data to make a horizontal line plot marked off in appropriate units.	DOK 4
March	3.20 Recognize area as an attribute of plane figures and understand concepts of area measurement. [3-MD5]	Go Math- Ch11-Less4-5	Area, perimeter, unit square, square unit	I can find the area of a plane figure.	DOK 2
March	3.20.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. [3-MD5a]	Go Math- Ch11-Less4-5	Area, perimeter, unit square, square unit	I can use square units to measure area.	DOK 1
March	3.20.b. A plane figure which can be covered without	Go Math-Ch11-Less4-5	Area, perimeter, unit square,	I can label area with square units.	DOK 1

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
	gaps or overlaps by n unit squares is said to have an area of n square units. [3-MD5b]		square unit		
March	3.21 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). [3-MD6]	Go Math- Ch11-Less5	Area, perimeter, unit square, square unit	I can measure area by counting square units.	DOK 1
March	3.22 Relate area to the operations multiplication and addition.[3-MD7]	Go Math- Ch11-Less6-8	Area, perimeter, unit square, square unit		DOK 2
March	3.22.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-MD7a]	Go Math- Ch11-Less6-8	Area, perimeter, unit square, square unit	I can find the area of a rectangle with tiles and show the area can be found by multiplying the side lengths.	DOK 1
March	3.22.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-MD7b]	Go Math- Ch11-Less6-8	Area, perimeter, unit square, square unit	I can solve real-world math problems that involve area.	DOK 2

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
March	3.22.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. [3-MD7c]	Go Math- Ch11-Less6-8	Area, perimeter, unit square, square unit	I can use tiles to make the area of a rectangle. I can represent the distributive property using this model.	DOK 1
March	3.22.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. [3-MD7d]	Go Math- Ch11-Less6-8	Area, perimeter, unit square, square unit	I can add the area of rectangles to find the total area of a figure.	DOK 2
March	3.23 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. [3-MD8]	Go Math- Ch11-Less1-3 Ch11-Less9-10	Area, perimeter, unit square, square unit	I can solve real-world problems involving perimeter and area.	DOK 4
Geometry					
April	3.24 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. [3-G1]	Go Math- Ch12- Less1-8	Angle, closed shape, polygon, quadrilateral, end point, line, line segment, point, ray, right triangle, vertex, decagon, hexagon, octagon, pentagon, side, triangle, rectangle, rhombus, square, trapezoid, intersecting lines, parallel lines, perpendicular lines	I can classify shapes by their attributes. I can draw a shape that does not belong to a group according to the attributes.	DOK 2

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Month Introduced	2013 AL COS Standards	Resources	Vocabulary	I Can	DOK Level
May	3.25 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. [3-G2]	Go Math- Ch12-Less9	Angle, closed shape, polygon, quadrilateral, end point, line, line segment, point, ray, right triangle, vertex, decagon, hexagon, octagon, pentagon, side, triangle, rectangle, rhombus, square, trapezoid, intersecting lines, parallel lines, perpendicular lines	I can divide shapes into equal areas. I can write the area of each part as a fraction.	DOK 1
May	Pre-requisite and foundational skills for 4th Grade- 4.12. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [4-NF1] 4.13. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model. [4-NF2]			System Initiative to bridge the gap between grade levels. Standards identified as weak standards during pacing session	

Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018

Assessment Schedule

1st Quarter	2nd Quarter/3rd Quarter	4th Quarter
Standards Tested	Standards Tested	Standards Tested
BM1 Assessment- All Standards (Week of August 28, 2017)	Formative Assessment- November, 2017 (Projected Testing Timeframe; waiting on new contract) Standards- 1,2, 5, 7, 8, 9, 10, 11, 12, 18	BM2 Assessment- All Standards (Projected Testing Timeframe- Week of February 5 th or 12 th - pending new contract)

**Midfield City Schools
MES 3rd Grade
Math Pacing Guide
Year 2017-2018**

--	--	--