4th Grade Math Pacing Guide 2021-2022

See NJSLS Math

See <u>4th Grade Instructional Framework</u>

Units highlighted yellow take **PRIORITY** for this school year based on guidance from Priority Instructional Content from Achieve the Core.

Units highlighted in blue were not taught/not taught in depth during the 2020-2021 school year.

Notes in Red are guidance from 2020-2021 Priority Instructional Content from Achieve the Core

	4 / Math / Trimester 1 (51 days)				
Time Frame	Primary Math Skills	Instructional Strategy	Academic Vocab.	Standards & M.P.	
5 -7 days	 Build a Math Community Intro math routines Fact fluency routine Classroom Discussion Norms Navigate and Practice using enVision Online Digital Platform Assessments (Grade 4 Readiness Test) Ixl Diagnostic 	Discuss Productive Struggle Growth mindset vs. fixed mindset Model & Practice Daily Math Routines Model and Practice using On-Line Programs Develop Classroom Discussion Norms Assess student's math readiness for 4th grade	Productive struggle Growth mindset Fixed Mindset	MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8	

10 days	 Topic 1: Generalize Place Value Understanding Numbers through One Million Place Value Relationships Compare Whole Numbers Round Whole Numbers Construct Arguments NO special considerations for curricula well aligned to generalizing place value understanding, as detailed in this cluster. Time spent on instruction should NOT be reduced.	enVisions Topic 1: Follow Instructional Framework (3 part lesson format) enVisions Digital Platform Place Value Chart, Number Line Games: (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Reflex (Multiplication & Division) Prodigy IXL (A.Number Sense) Anchor Charts/Vocab. Word Walls Fact Fluency Drills Manipulatives: Base Ten Blocks Provide students with opportunities to explain their reasoning/ and with using visual models.	Place value Expanding Form Greater than symbol Less than symbol Rounding Conjecture Millions Period *New words are in Bold	4.NBT.A.1 4.NBT.A.2 4.NBT.A.3 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8
9 days	Topic 2: Fluently Add and Subtract Multi-Digit Whole Numbers	enVisions Topic 2: Follow Instructional Framework (3 part lesson format)	Commutative property of addition	4.NBT.4 4.0A.A3

	 Finding Sums and Differences with Mental Math Estimate Sums and Differences Add Whole Numbers Add Greater Numbers Subtract Whole Numbers Subtract Greater Numbers Subtract Across Zeros Problem Solving: Reasoning Required Fluency for Grade 4 Add/Subtract within 1,000,000 In relation to fluency expectations for subtracting multi-digit numbers emphasize problems with only one regrouping step (4.NTB.B.4) in order to reduce algorithmic complexity. 	enVisions Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Walls Reflex (Multiplication & Division) Prodigy IXL (B.Addition & C.Subtraction) Fact Fluency Drills Place Value charts Manipulatives: Base Ten Blocks Provide students with opportunities to explain their reasoning/ and with using visual models.	Associative property of addition Identify property of addition Counting On Compensation Inverse Operation Variable Algorithm *New words are in Bold	MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8
7 days	 Topic 7: Factors and Multiples Understand Factors Factors Repeated Reasoning 	enVisions Topic 7: Follow Instructional Framework (3 part lesson format) enVisions Digital Platform	Factor Factor pairs Multiples Generalize Prime number	4.0A.B.4 4.NT.B.5 MP.1 MP.2

	 Prime and Composite Numbers Multiples (Topic 7 was moved before Topic 3 as it develops student understanding of factors and multiples by going back to accessing basic understanding of multiplication and division. It is important to access this understanding prior to developing understanding of multi-digit multiplication and division application of strategies) Incorporate opportunities to solidify the fluency expectations of 3.OA.C.7 by giving additional practice sets related to products of single-digit factors and related quotients (with unknowns in all positions) into the grade 4 work of gaining familiarity with factors and multiples. 	Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Walls Reflex Math (Multiplication & Division) Prodigy IXL (A.Number Sense 17-18; D. Multiplication 1-8) Fact Fluency Drills Manipulatives: 2 Color Square Counters Provide students with opportunities to explain their reasoning/ and with using visual models	Composite *New words are in Bold	MP.3 MP.4 MP.5 MP.6 MP.7 MP.8
13 days	 Topic 3: Use Strategies & Properties to Multiply by 1-Digit Numbers Multiply by Multiples of 10, 100. And 1,000 Estimate Products 	enVisions Topic 3: Follow Instructional Framework (3 part lesson format) enVision Digital Platform	Associative property of multiplication Distributive property Compensation Commutative property of multiplication Numerical expression	4.NBT.B.5 4.OA.A.3 4.OA.A.2 MP.1 MP.2 MP.3

 Use Arrays and Partial Products to Multiply Use Area Models and Partial Products to Multiply More Use Area Models and Partial Products to Multiply Mental Math Strategies for Multiplication Choose a Strategy to Multiply The standard algorithm is NOT taught in 4th grade: Students are shown this method in 5th grade. Incorporate fluency expectations of 3.OA.C.7 by giving additional practice sets related to products of single-digit factors and related quotients (with unknowns in all positions) into the grade 4 work on multi-digit multiplication and division (4.NBT.5 & 6).	Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Walls Reflex (Multiplication & Division) Prodigy IXL (D. Multiplication 23-31) Fact Fluency Drills Manipulatives: Base Ten Blocks Provide students with opportunities to explain their reasoning/ and with using visual models.	Partial Products *New words are in Bold	MP.4 MP.5 MP.6 MP.7 MP.8
Major Work: Multiplication and division of whole numbers and fractions-concepts, skills, and problem solving.			
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	4 / 1	Math / Trimester 2 (51 days)		
Time Frame	Primary Math Skills	Instructional Strategy	Academic Vocab.	Standards & M.P.
14 days May begin to	Topic 4: Use Strategies and Properties to Multiply by 2 digit numbers	enVisions Topic 4: Follow Instructional Framework (3 part lesson format)	Distributive property Commutative property of multiplication Associative property of	4.NBT.B.5 4.OA.A.3 MP.1
instruct in	Multiply multiples of 10	enVisions Digital Platform	multiplication	MP.2

the 1st trimester.	 Use models to multiply 2-Digit numbers by multiples of 10 Estimate: Use rounding or compatible numbers Use arrays and partial products to multiply Use area models and partial products to multiply. Incorporate fluency expectations of 3.OA.C.7 by giving additional practice sets related to products of single-digit factors and related quotients (with unknowns in all positions) into the grade 4 work on multi-digit multiplication and division (4.NBT.5 & 6). Major Work: Multiplication and division of whole numbers and fractions-concepts, skills, and problem solving.	Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) IXL (D. Multiplication 9-22) Fact Fluency Drills Manipulatives: Base Ten Blocks Provide students with opportunities to explain their reasoning/ and with using visual models.	Area model Partial products algorithm Compatible numbers *New words are in Bold	MP.3 MP.4 MP.5 MP.6 MP.7 MP.8
14 days	 Topic 5: Use Strategies and Properties to Divide by 1-Digit Numbers Use mental math to find quotients Use mental math to estimate quotients. Use mental math to estimate quotients for greater dividends. Interpret remainders Use partial quotients to divide Use sharing to divide 	enVisions Topic 5: Follow Instructional Framework (3 part lesson format) enVisions Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall	Equation Divisor Dividend Quotient Compatible Numbers Remainder Partial quotients *New words are in Bold	4. NTB.B.6 4. OA.A.3 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

	 Choosing a strategy to divide Incorporate fluency expectations of 3.OA.C.7 by giving additional practice sets related to products of single-digit factors and related quotients (with unknowns in all positions) into the grade 4 work on multi-digit multiplication and division (4.NBT.5 & 6). There are NO fluency expectations for multi-digit multiplication or division in grade 4; repetitive fluency exercises are not required. Major Work: Multiplication and division of whole numbers and fractions-concepts, skills, and problem solving. 	Reflex (Multiplication & Division) Prodigy IXL (E.Division) Fact Fluency Drills Manipulatives: 2-Color Counters & Base Ten Blocks Provide students with opportunities to explain their reasoning/ and with using visual models.		
9 days	 Topic 6: Use Operations with Whole Numbers to Solve Problems Solve comparison problems Model Multi-Step Problems Solve Multi-Step Problems NO special considerations for curricula well aligned to analyzing and solving multi-step word problems with the four operations (4.OA.3), and extending multiplicative thinking beyond grade 3 to solve problems involving comparisons and the idea of times-as-many/times-as-much 	enVisions Topic 6: Follow Instructional Framework (3 part lesson format) enVision Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division)	Variable Equation	4.OA.A.1 4.OA.A.2 4.OA.A.3 4.NBT.B.5 4.NBT.B.6 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

	(4.OA.2).	Prodigy IXL (F.Mixed Operations) Fact Fluency Drills Provide students with opportunities to explain their reasoning/ and with using visual models.		
7 days	 Topic 8: Extend Understanding of Fraction Equivalence and Ordering Equivalent Fractions:Area Models Equivalent Fractions:Number Lines Generate Equivalent Fractions using multiplication Generate Equivalent Fractions using division. Use benchmarks to compare fractions Compare Fractions NO special considerations for curricula well aligned to fraction	enVisions Topic 8: Follow Instructional Framework (3 part lesson format) enVisions Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) Prodigy	Equivalent fraction Fraction Numerator Denominator Identify property of multiplication Common factor Benchmark fraction *New words are in Bold	4. NF.A.1 4. NF.A.2 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

	equivalence and ordering, as detailed in this cluster. Incorporate some foundational work on simple equivalent fractions (3.NF.A.3). Time spent on instruction and practice should NOT be reduced. Incorporate some foundational work on the meaning of the unit fraction (3.NF.A.1 & 2), especially through partitioning the whole on a number line diagram.	 IXL (P. Fraction Equivalence & Ordering) Fact Fluency Drills Number Lines Manipulatives: Fraction Strips Provide students with opportunities to explain their reasoning/ and with using visual models. 		
14 days	 Topic 9: Understand Addition and Subtraction of Fractions Model addition of fractions Decompose fractions Add fractions with like denominators Model subtraction of fractions Subtract fractions with like denominators Add & subtract fractions with like denominators Add & subtract fractions with like denominators Model addition and subtraction of mixed numbers Add mixed numbers Subtract mixed numbers 	enVisions Topic 9: Follow Instructional Framework (3 part lesson format) enVision Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) Prodigy	Fraction Numerator Denominator Reasonable Equivalent fraction Decompose Compose Mixed Fraction *New words are in Bold	4.NF.B.3a 4.NF.B.3b 4.NF.B.3c 4.NF.B.3d MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

fractions to determine sums and products, not committing calculation rules to memory or engaging in repetitive fluency exercises.	IXL (Q. Add & Subtract Fractions with like denominators & R. Add and Subtract Fractions with unlike denominators)	
Eliminate lessons and problems that do not strongly reinforce the fraction	Fact Fluency Drills	
work of this grade. (Achieve the Core)	Number Lines	
	Manipulatives: Fraction strips	
	Provide students with opportunities to explain their reasoning/ and with using visual models.	
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	4 / N	Math / Trimester 3 (63 days)		
Time Frame	Primary Math Skills	Instructional Strategy	Academic Vocab.	Standards & M.P
9 days	 Topic 10: Extend Multiplication Concepts To Fractions Fractions as multiples of unit fractions Multiply a fraction by a whole number: Use models Multiply a fraction by a whole number: Use symbols Solve time problems *After this topic we start to jump around to instruct material that may be assessed on the NJSLA Major Work: Multiplication and division of whole numbers and fractions-concepts, skills, and problem solving. 	enVisions Topic 10: Follow Instructional Framework (3 part lesson format) enVision Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab Word Wall Reflex (Multiplication & Division) Prodigy IXL (S. Multiply Fractions)	Unit fraction Mixed number	4.NF.B.4a 4.NF.B.4b 4.NF.B.4c 4.NF.B.3d 4.MD.A.2 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

		Fact Fluency Drills Manipulatives: Fraction Strips/Clock Face Provide students with opportunities to explain their reasoning/ and with using visual models.		
10 days	 Topic 12: Understand and Compare Decimals Fractions and decimals Fractions and decimals on the number line Compare decimals Add fractions with denominators of 10 and 100 Solve world problems involving money NO special considerations for curricula well aligned to concepts of decimal fractions, as detailed in this cluster. Time spent on instruction and practice should NOT be reduced. 	enVisions Topic 12: Follow Instructional Framework (3 part lesson format) enVision Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) Prodigy IXL (T. Decimals) Fact Fluency Drills Hundredths grid/Place Value Chart Manipulatives: 2 Color Counters/Decimal Models/Decimal	Tenth Hundredth Decimal point *New words are in Bold	4.NF.C.5 4.NF.C.6 4.NF.C.7 4.MD.A.2 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

		Provide students with opportunities to explain their reasoning/ and with using visual models.		
10 days	 Topic 15: Geometric Measurements: Understand Concepts of Angle Measurements Lines, rays, & angles Understand angles and unit angles Measure with unit angles Measure and draw angles Add and subtract angle measures Emphasize the foundational understanding of one-degree angle as a unit of a measure (4.MD.C.5a) and use that as the basis for measuring and drawing angles with a protractor. Eliminate lessons on recognizing angle measure additives.	enVisions Topic 15: Follow Instructional Framework (3 part lesson format) enVisions Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) Prodigy IXL (W.Two Dimensional Figures & Z. Angles) Fact Fluency Drills Manipulatives: Pattern Blocks/Protractors/Clock Face	Line Right angle Vertex Point Line Segment Ray Acute angle Obtuse angle Straight angle Reflex angle Degree Unit angle Angle measure Protractor *New words are in Bold	4.MD.C.5 4.MD.C.5a 4.MD.C.5b 4.MD.C.6 4.MD.C.7 4.G.A.1 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

		Provide students with opportunities to explain their reasoning/ and with using visual models.		
10 days	 Topic 16: Lines, Angles, and Shapes Lines Classify triangles Classify quadrilaterals Line symmetry Draw shapes with line symmetry Combine lessons on drawing and identifying lines and angles and classifying shapes by properties. Limit the amount of required student practice.	enVisions Topic 16: Follow Instructional Framework (3 part lesson format) enVision Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) Prodigy IXL (X.Triangles & Quadrilaterals & Y. Symmetry) Fact Fluency Drills Provide students with opportunities to explain their reasoning/ and with using visual models.	Parallelogram Rectangle Square Rhombus Trapezoid Parallel lines Perpendicular lines Intersecting lines Right triangles Obtuse triangle Acute triangle Equilateral triangle Isosceles triangle Scalene triangle Line of symmetric Line of symmetry *New words are in Bold	4.G.A.1 4.G.A.2 4.G.A.3 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

10 days	 Topic 13: Measurement: Find Equivalence in Units of Measure Equivalence with customary units of length Equivalence with customary units of capacity Equivalence with customary units of weight Equivalence with metric units of length Equivalence with metric units of length Equivalence with metric units of capacity and mass Solve area and perimeter problems NO special considerations for curricula well aligned to measurement conversion, as detailed in this standard. Time spent on instruction and practice should NOT exceed what would be spent in a typical year. 	enVisions Topic 13: Follow Instructional Framework (3 part lesson format) enVisions Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) Prodigy IXL (N. Units of Measurement) Fact Fluency Drills Manipulatives: centimeter ruler/meter stick Provide students with opportunities to explain their reasoning/ and with	Capacity Weight Centimeter Milliliter Liter Gram Milligram Kilogram Perimeter Area Formula Quart Gallon Cup Pint Fluid ounce Ounce Pound Ton Millimeter Meter Kilometer Mass *New words are in Bold	4.MD.A.1 4.MD.A.2 4.MD.A.3 4.NF.B.3d 4.NF.B.4c 4.NF.B.4c 4.NTB.B.5 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8

7 days Topic 11: Represent and Interpret Data on Line Plots • Read line plots • Make line plots • Use line plots to solve problems	 Data on Line Plots Read line plots 	enVisions Topic 11: Follow Instructional Framework (3 part lesson format)	Line plot Scale	4.MD.B.4 4.NF.A.1
	enVisions Digital Platform Games (Quiet Tiles) & enVision	*New words are in Bold	MP.1 MP.2 MP.3	
		digital games Boom Cards-Teachers Pay Teachers		MP.4 MP.5 MP.6 MP.7
		Anchor Charts/Vocab. Word Wall		MP.8
		Reflex (Multiplication & Division)		
		Prodigy		
		IXL (J. Data and Graphs)		
		Fact Fluency Drills		
		Number Lines		
		Provide students with opportunities to explain their reasoning/ and with using visual models.		

7 days	 Dipic 14: Algebra: Generate and Analyze Patterns Number sequences Patterns: Number Rules Patterns: Repeating Shapes Eliminate lessons on generating and analyzing patterns .	enVisions Topic 14: Follow Instructional Framework (3 part lesson format) enVision Digital Platform Games (Quiet Tiles) & enVision digital games Boom Cards-Teachers Pay Teachers Anchor Charts/Vocab. Word Wall Reflex (Multiplication & Division) Prodigy IXL (L. Patterns & Sequences) Fact Fluency Drills Manipulatives Pattern Blocks Provide students with opportunities to explain their reasoning/ and with using visual models.	Growing patterns Rule Repeating pattern *New words are in Bold	4.OA.C.5 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8
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Formative Assessment Plan

 IXL Slates/Whiteboards Entrance/Exit Slip Quick Check Teacher Made Quiz Reteach Wkbk pgs. Additional Practice Problems Pick a Project Boom Cards Vocab Assessments 	 Common Assessments - Pre/Post Topic Assessments Topic Performance Based Assessments Benchmark Assessments on Multiple Chapters
Main Resources	Supplementary Resources
 enVisions 2020 Common Core Edition 	 IXL Prodigy Reflex Math Boom Cards-Teachers Pay Teachers