4th Grade Curriculum Guide – 2022-2023

4th Grade BIG Transition Guide

Mathematical Thinking and Reasoning Standards

Benchmarks New to 4th Grade- (Live Binder)

Key: *Time frame Includes two days for assessment. Yellow highlight: New grade level content, (FD) Foundational Benchmark Exploration (E), Procedural Reliability (PR), Procedural Fluency (PF), Recall/Automaticity (R

Benchmarks	Learning Targets GoMath CHAPTER 1	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.NSO.1.1 MA.4.NSO.1.2 MA.4.NSO.1.3 (FD) MA.4.NSO.1.4 (FD)	**Number Sense and Operations** **Understand place value for multi-digit numbers** •Use models to show place value of numbers through 1,000,000. •Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to the left or right. •Read and write whole numbers through 999,999. •Plot, order, and compare whole numbers include scaled number lines. •Round whole numbers. •Add and subtract whole numbers. (Transitional Skill) •Use the strategy draw a diagram to solve comparison problems		13 days
	Instructional Guidance	**Manipulatives**	

Notes:	**BEST Pre-requisite Skills** • MA.3.NSO.2.1 (Ch. 1 Lessons 6-8) **New to 4th Grade** • NSO.1.3: Plotting multi-digit numbers **(BIG-M pgs. 16-17)** • NSO.1.4: Rounding is to the nearest 10, 100 or 1,000 **(BIG-M pgs. 17-18-)**	•Number lines •Digit cards •Base ten blocks •Place value chart	

Literature

•How Big Is A Million? by Anna Milbourne •A Million Dots by Andrew Clements •How Much Is a Million? by David M. Schwartz* •A Place for Zero by Angeline Sparagna Lo Presti •Great Estimations by Bruce Goldstone •One Hundred Hungry Ants by Elinor Pinczes •Ten Times Better by Richard Michelson •Place Value by David Adler •Sir Circumference and All the King's Tens by Cindy Neushwander

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Benchmarks	Learning Targets GoMath CHAPTER 2	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.AR.1.1 MA.4.NSO.2.3 (PF) MA.4.NSO.2.5 (E) MA.4.NSO.2.1 (R)	**Multiply by 1-Digit Numbers** •Multiply tens, hundreds, and thousands by whole numbers through 10. (Lesson 3) •Estimate products by rounding. (Lesson 4) •Use a variety of strategies and models to multiply by 1-digit numbers. (Lessons 5, 6, 7, 8, 10, & 11) •Solve multiplication comparison and multistep problems. (Lessons 9 & 12)	LESSON 2.1	22 days
	Instructional Guidance	**Manipulatives**	
Notes:	**New to 4th Grade** • NSO.2.5: Explore the multiplication and division of multi-digit whole numbers using estimation, rounding and place value. **(BIG-M pgs. 27-29)**	•Number lines •Digit cards •Base ten blocks •Place value chart •Grid Paper •Color tiles •Two-color counters •Multiplication chart	

Literature

•Two Ways to Count to Ten by Ruby Dee •Each Orange Had 8 Slices by Paul Giganti, Jr. and Donald Crews •Six-Dinner Sid by Inga More* •The Hershey's Multiplication Book by Jerry Pallotta •Math Attack! by Joan Horton & Krysten Brooker •Amanda Bean's Amazing Dream by Cindy Neuschwander •Sea Squares by Joy Hulme

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Benchmarks	Learning Targets GoMath CHAPTER 3	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.AR.1.1 MA.4.NSO.2.3 (PF) MA.4.NSO.2.5 (E) MA.4.NSO.2.4 (PR)	**Multiply 2-Digit Numbers** •Use place value and multiplication properties to multiply by tens. •Estimate products by rounding or by using compatible numbers. •Use a variety of strategies and models to multiply up to three-digit numbers. •Use the strategy draw a diagram to solve multistep problems. •Multiply two whole numbers, each up to two digits using the standard algorithm.		11 days
	Instructional Guidance	**Manipulatives**	
Notes:	**New to 4th Grade** • NSO.2.5: Explore the multiplication and division of multi-digit whole numbers using estimation, rounding and place value. **(BIG-M pgs. 27-29)** • NSO.2.2: Multiply two whole numbers, up to three digits by up to two digits, with procedural reliability. **(BIG-M pgs. 22-23)** •	•Number lines •Digit cards •Base ten blocks •Place value chart •Grid Paper •Color tiles •Two-color counters •Multiplication chart	
Literature			

•Two Ways to Count to Ten by Ruby Dee •Each Orange Had 8 Slices by Paul Giganti, Jr. and Donald Crews •Six-Dinner Sid by Inga More* •The Hershey's Multiplication Book by Jerry Pallotta •Math Attack! by Joan Horton & Krysten Brooker •Amanda Bean's Amazing Dream by Cindy Neuschwander •Sea Squares by Joy Hulme

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Benchmarks	Learning Targets GoMath CHAPTER 4	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.AR.1.1 MA.4.NSO.2.4 (PR) MA.4.NSO.2.5 (E) MA.4.AR.2.1 MA.4.AR.2.2	**Divide by 1-Digit Numbers** •Divide tens, hundreds, and thousands by a one-digit whole number. (Lesson 4) •Use a variety of strategies and models including estimation to divide with and without remainders. (Lessons 2, 6, 7,8,9, &11) •Interpret remainders. (Lesson 3) •Use the strategy draw a diagram to solve multistep problems. (Lesson 12)	4.1	17 days
	Instructional Guidance	**Manipulatives**	
Notes:	**New to 4th Grade** • NSO.2.5: Explore the multiplication and division of multi-digit whole numbers using estimation, rounding and place value. **(BIG-M pgs. 27-29)**	•Number lines •Digit cards •Base ten blocks •Place value chart •Grid Paper •Color tiles	

		•Two-color counters •Multiplication Chart	
Literature •A Remainder of One by Elinor Pinezez •Divide or Ride by Stuart J. Murphy •Six-Dinner Sid by Inga More •The Doorbell Rang by Pat Hutchins •Math Attack! by Joan Horton & Krysten Brooker •The Great Divide: A Mathematical Marathon by Dayle Ann Dodds •The Multiplying Menace Divides by Pam Calvert •Equal Shmequal by Virginia Kroll •Bean Thirteen by Matthew McElligot			

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Benchmarks	Learning Targets GoMath CHAPTER 5	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.NSO.2.1 (R) MA.4.AR.3.1 MA.4.AR.3.2	**Factors, Multiples, and Patterns** •Find all the factors of a number. (Lesson 1) •Determine whether a number is a multiple of a given number. (Lesson 4) •Determine whether a number is prime or composite. (Lesson 5) •Generate a number pattern and describe features of the pattern. (Lesson 6) •Use models and the strategy *make a list* to solve problems. (Lesson 3) •Understand the relationship between multiplication and division and patterns with divisibility rules. (Lesson 2)		7 days
	Instructional Guidance		
Notes:	**BEST Pre-requisite Skills** • MA.3.AR.3.2 (Lessons 1, 2 and 4) **New to 4th Grade** • NSO.2.1: Recall multiplication facts with factors up to 12 and related division facts with automaticity. **(BIG-M pgs. 20-22)** • AR.3.1 : Factor pairs from 0 to 144. **(BIG-M pgs. 58-60)**		
Literature •Fraction Fun by David Adler •Fraction Action by Loreen Leedy •The Lion's Share by Matthew McElligott •Fractions, Decimals, & Percents by David A. Adler •Picture Pie by Ed Emberley •Full House: An Invitation to Fractions by Dayle Ann Dodds •The Wishing Club: A Story about Fractions by Donna Jo Napoli •My Half Day by Doris Disher •If You Were a Fraction by Trisha Shaskan			

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Benchmarks	Learning Targets GoMath CHAPTER 6	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.FR.1.3 MA.4.FR.1.4 (FD)	**Fraction Equivalence and Comparison** •Use a variety of strategies and models to generate equivalent fractions. (Lesson 1, 2, & 5) •Write equivalent fractions in simplest form. (Lesson 3) •Use equivalent fractions to write fractions with a common denominator. (Lesson 4) •Plot, order, and compare fractions. (Lesson 6-8)		12 days
	Instructional Guidance	**Manipulatives**	
Notes:	•Teach Lessons 6.1, 6.2, & 6.5 in this order. Once lesson 6.5 is completed then move on to lesson 6.3. **New to 4th Grade** • FR.1.4: Plotting and ordering fractions. **(BIG-M pgs. 39-41)**	•Two-color counters •Connecting cubes •Fraction number lines •Fraction circles •Fraction strips •Fraction tiles •Grid paper	

Literature

•Fraction Fun by David Adler •Fraction Action by Loreen Leedy •The Lion's Share by Matthew McElligott •Fractions, Decimals, & Percents by David A. Adler •Picture Pie by Ed Emberley •Full House: An Invitation to Fractions by Dayle Ann Dodds •The Wishing Club: A Story about Fractions by Donna Jo Napoli •My Half Day by Doris Disher •If You Were a Fraction by Trisha Shaskan

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Benchmarks	Learning Targets GoMath CHAPTER 7	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.AR.1.2 MA.4.FR.2.1	**Add and Subtract Fractions** •Decompose a fraction by writing it as a sum. (Lesson 2) •Use a variety of strategies and models to add and subtract fractions and mixed numbers with procedural reliability. (Lessons 1, & 3-5) •Write fractions greater than 1 as mixed numbers and write in word form mixed numbers as fractions greater than 1. (Lesson 6)		15 days
	Instructional Guidance	**Manipulatives**	
Notes:	•Teach Lesson 2 first, then teach lessons 1,3,4, & 5. **New to 4th Grade** • FR.2.2: Add and subtract fractions with like denominators, including mixed numbers and fractions greater than one, with procedural reliability. **(BIG-M pgs. 42-44)** • FR.2.3: Explore the addition of a fraction with denominator of 10 to a fraction with denominator of 100 using equivalent fractions. **(BIG-M pgs. 44)**	•Two-color counters •Connecting cubes •Fraction number lines •Fraction circles •Fraction strips •Fraction tiles •Grid paper	
Literature •Fraction Fun by David Adler •Fraction Action by Loreen Leedy •The Lion's Share by Matthew McElligott •Fractions, Decimals, & Percents by David A. Adler •Picture Pie by Ed Emberley •Full House: An Invitation to Fractions by Dayle Ann Dodds •The Wishing Club: A Story about Fractions by Donna Jo Napoli •My Half Day by Doris Disher •If You Were a Fraction by Trisha Shaskan			

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Benchmarks	Learning Targets GoMath CHAPTER 8	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.AR.1.3 MA.4.FR.2.4	**Multiply Fractions by Whole Numbers** •Find multiples of a unit fraction. (Lesson 1) •Find multiples of a fraction. (Lesson 2) •Multiply a fraction or mixed number by a whole number or a whole number by a fraction. (Lessons 3 & 4) •Use the strategy draw a diagram to solve comparison problems with fractions. (Lesson 5)		12 days
		Manipulatives	
		•Two-color counters •Connecting cubes •Fraction number lines •Fraction circles •Fraction strips •Fraction tiles •Grid paper	
Literature			

•Fraction Fun by David Adler •Fraction Action by Loreen Leedy •The Lion's Share by Matthew McElligott •Fractions, Decimals, & Percents by David A. Adler •Picture Pie by Ed Emberley •Full House: An Invitation to Fractions by Dayle Ann Dodds •The Wishing Club: A Story about Fractions by Donna Jo Napoli •My Half Day by Doris Disher •If You Were a Fraction by Trisha Shaskan

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Benchmarks	Learning Targets GoMath CHAPTER 9	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.FR.1.2 MA.4.FR.1.1 MA.4.M.2.1 MA.4.M.2.2 MA.4.NSO.1.5 MA.4.NSO.2.6	**Relate Fractions and Decimals** •Record tenths and hundredths as fractions and as decimals (Lessons 1 and 2). •Relate fractions, decimals, and money (Lesson 4). •Add fractions with denominators of 10 and 100 (Lesson 6). •Plot, order and compare decimals to hundredths (Lesson 7). •Use the strategy "*act it out*" to solve problems.		9 days
	Instructional Guidance	**Manipulatives**	
Notes:	**New to 4th Grade** •MA.4.FR.1.2: Representing mixed numbers and fractions greater than one is included in decimal notation is new in grade 4. **(BIG-M pgs. 34-36)** •MA.4.NSO.1.5**:** Plotting and ordering decimals. **(BIG-M pgs. 19-22)** •MA.4.NSO.2.6: Identify the number that is one-tenth more, one-tenth less, one-hundredth more and one hundredth less than a given number. **(BIG-M pgs. 29-30)**	•Decimal models (base ten blocks) •Fraction circles •Fraction strips •Fraction tiles •Grid paper •Place value chart •Coins/bills	

	•NSO.2.7: Explore the addition and subtraction of multi-digit numbers with decimals to the hundredths. **(BIG-M pgs. 31-32)**		

Literature

•Fraction Fun by David Adler •Fraction Action by Loreen Leedy •The Lion's Share by Matthew McElligott •Fractions, Decimals, & Percents by David A. Adler •Picture Pie by Ed Emberley •Full House: An Invitation to Fractions by Dayle Ann Dodds •The Wishing Club: A Story about Fractions by Donna Jo Napoli •My Half Day by Doris Disher •If You Were a Fraction by Trisha Shaskan

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Benchmarks	Learning Targets CHAPTER 10	NOT Aligned Go Math Lessons	Suggested Time Frame (Include 2 days for assessments)
NO 4TH GRADE BENCHMARKS MA.3.GR.1.1 MA.5.GR.1.1 MA.2.GR.1.3 MA.3.GR.1.3	**Geometry, Measurement and Data: Two-Dimensional Figures** •Identify and draw points, lines, line segments, rays, angles, parallel lines, and perpendicular lines. (Lesson 1 & 3) •Classify triangles by the size of their angles. (Lesson 2) •Sort and classify quadrilaterals. (Lesson 4) •Identify and draw lines of symmetry in two-dimensional figures. (Lesson 5 & 6) •Use the strategy *act it out* to solve pattern problems. (Lesson 7)		11 days
	Instructional Guidance	**Manipulatives**	
Notes:	• MA.5.GR.1.1 : 5th grade GoMath Ch. 11 Lesson 2 references Triangles scalene, isosceles, equilateral, acute, obtuse and right triangles are. • MA.3.GR.1.1- 3rd grade GoMath Ch. 12 Lessons 1, & 4	•Geoboards and Geo bands (rubber bands) •Straws, toothpicks, Chenille straws (pipe cleaners), popsicle sticks to create quadrilaterals •Pattern blocks •Rulers •Various 2-Dimensional Figures •Construction paper die-cut alphabet letters to find symmetry	
Literature			

•The Greedy Triangle by Marilyn Burns •Sir Cumference and the Great Knight of Angleland by Cindy Neuschwander •Grandfather Tang's Story by Ann Tompert •Shape by Shape by Suse MacDonald •If You Were a Polygon by Marcie Aboff •I Spy Shapes in Art by Lucy Micklethwait •Shape Up!: Fun with Triangle and Other Polygons by David Alde

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Benchmarks	Learning Targets CHAPTER 11	NOT Aligned Go Math Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.GR.1.1 MA.4.GR.1.2 MA.4.GR.1.3	**Angles** •Relate angles and degrees to fractional parts of a circle. (Lesson 1 & 2) •Use a protractor to measure and draw angles. (Lesson 3) •Determine the measure of an angle separated into parts. (Lesson 4 & 5)		8 days
	Instructional Guidance	**Manipulatives**	
Notes:	**New to 4th Grade** • GR.1.1: Informally explore angles as an attribute of two-dimensional figures. Identify and classify angles as acute, right, obtuse, straight or reflex. Reflex angles are new to grade 4. **(BIG-M pgs. 70-71)** • GR.1.3: Solve real-world and mathematical problems involving unknown whole-number angle measures. Write an equation to represent the unknown. **(BIG-M pgs. 75-76)**	•Geoboards and Geo bands (rubber bands) •Straws, toothpicks, Chenille straws (pipe cleaners), popsicle sticks to create quadrilaterals •Pattern blocks •Rulers •Various 2-Dimensional Figures •Construction paper die-cut alphabet letters to find symmetry	
Literature			

•The Greedy Triangle by Marilyn Burns •Sir Cumference and the Great Knight of Angleland by Cindy Neuschwander •Grandfather Tang's Story by Ann Tompert •Shape by Shape by Suse MacDonald •If You Were a Polygon by Marcie Aboff •I Spy Shapes in Art by Lucy Micklethwait •Shape Up!: Fun with Triangle and Other Polygons by David Alde

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Benchmarks	Learning Targets CHAPTER 12	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.M.1.2 MA.4.M.2.1 MA.4.DP.1.1 MA.4.M.1.1 MA.4.DP.1.3	**Relative Sizes of Measurement Units** •Use benchmarks to understand the relative sizes of measurement units. (Lesson 1) •Use models to compare customary units of length, weight, and liquid volume. (Lesson 2, 3, & 4) •Understand how to convert from smaller to larger units or from larger to smaller units. •Select and use appropriate tools to measure attributes of objects. •Make and interpret line plots. (Lesson 5) •Use models to compare metric units of length, mass, and liquid volume. (Lessons 6 & 7) •Use models to compare units of time and solve elapsed time problems. (Lesson 8 & 9)	12.10 12.11	14 days
	Instructional Guidance	**Manipulatives**	
Notes:	**New to 4th Grade** • DP.1.2: Determine the mode, median or range to interpret numerical data including factional values, represented with tables, stem-and-leaf plots or line plots. (I-Ready) **(BIG-M pgs. 81-83)**	•Dot paper •Geoboards and Geo bands (rubber bands) •Grid paper •Protractors •Rulers	
Literature •How Long, or How Wide: A Measurement Guide by Brian P. Cleary*•How Big is a Foot by Rulf Muller*•Me and the Measure of Things by Joan Sweeney •Perimeter, Area, and Volume: A Monster Book of Dimensions by David A. Adler •Sir Cumference and the Isle of Immeter by Cindy Neuschwander •Carrie			

Measures Up by Linda Williams Aber •Sir Cumference and the Great Knight of Angleland by Cindy Neushwander •Spaghetti and Meatballs for All by Marilyn Burns •How Much is a Million? by David M. Schwartz

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Benchmarks	Learning Targets CHAPTER 13	NOT Aligned Go Math! Lessons	Suggested Time Frame (Include 2 days for assessments)
MA.4.GR.2.1	**Algebra: Perimeter and Area** •Use formulas to find the perimeter and area of a rectangle. (Lesson 1 & 2) •Find the area of combined rectangles. (Lesson 3) •Find the unknown measure of a side of a rectangle, given perimeter or area. (Lesson 4) •Use the strategy solve a simpler problem to solve area problems. (Lesson 5)		7 days
	Instructional Guidance	**Manipulatives**	
Notes:	**New to 4th Grade** • GR.2.2: Solve problems involving rectangles with the same perimeter and different areas or with the same area and different perimeters. **(BIG-M pgs. 79-80)**	•Dot paper •Geoboards and Geo bands (rubber bands) •Grid paper •Protractors •Rulers	

Literature

•How Long, or How Wide: A Measurement Guide by Brian P. Cleary*•How Big is a Foot by Rulf Muller*•Me and the Measure of Things by Joan Sweeney •Perimeter, Area, and Volume: A Monster Book of Dimensions by David A. Adler •Sir Cumference and the Isle of Immeter by Cindy Neuschwander •Carrie Measures Up by Linda Williams Aber •Sir Cumference and the Great Knight of Angleland by Cindy Neushwander •Spaghetti and Meatballs for All by Marilyn Burns •How Much is a Million? by David M. Schwartz

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B.E.S.T. Mathematical Thinking & Reasoning Standards
Questions for Teachers to Ask

MTR.4.1 Engage in discussions that reflect on the mathematical thinking of self and others.

- Explain what you did to solve the problem.
- How is your solution different than___'s?
- How can you prove that your solution is correct?
- What math language will help you prove your solution?
- What examples could prove or disprove your argument?
- What do you think about___'s argument?
- Why do you disagree with _____'s solution?
- Would using _____'s method to make solving the problem easier? Explain.

*It is important that the teacher poses tasks that involve arguments or critiques.