

Cliffside Park Public Schools

	September	October	November	December	January	February	March	April	May	June
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**GRADE 2
MAP
of
MATH CURRICULUM TOPICS**

	September	October	November	December	January	February	March	April	May	June
GRADE 2 UNITS OF STUDY & BENCHMARKS	Addition & Subtraction Strategies -to add and subtract facts to 12 without regrouping	Addition & Subtraction : -to add and Subtract facts to 20 without regrouping -to identify place Value -to count, read and write to show numbers to 100 -to Estimate -to identify Odd & Even Numbers	Telling Time: -to the hour -t o the half hour -to quarter hour - using 5 minute increments. -find elapsed time -to read a calendar	Regrouping: -to add 2-digit numbers with regrouping -to subtract 2-digit numbers with regrouping	Money: -to add coins using quarters, dimes and nickels	Data & Graphs: -to compare bar graphs, line graphs and picture graphs	Measurement: -to measure using customary: inch, foot, yard, cup, pint, quart, ounce, pound, perimeter, area, fahrenheit, -Metric: measure using centimeter, meter, gram, kilogram, celcius Geometry: using shapes	Fractions: -to identify fractional parts of a group and a whole Probability: - to identify likely & unlikely events	Place Value: -to identify place value to 1,000 Addition & Subtraction of 3-digit Numbers - to add and subtract correctly with and without regrouping	Multiplication & Division: -to multiply and divide numbers: 2,3,5 and 10 Review as needed
	COMPUTATIONAL FLUENCY SPIRALING (Through daily review) PROBLEM OF THE DAY (use strategies to solve problems)									

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*CURRICULUM FOCAL POINTS (NCTM)	<p>Number and Operations: Developing an understanding of the base-ten numeration system and place-value concepts</p> <p>Children develop an understanding of the base-ten numeration system and place-value concepts (at least to 1000). Their understanding of base-ten numeration includes ideas of counting in units and multiples of hundreds, tens, and ones, as well as a grasp of number relationships, which they demonstrate in a variety of ways, including comparing and ordering numbers. They understand multidigit numbers in terms of place value, recognizing that place-value notation is a shorthand for the sums of multiples of powers of 10 (e.g., 853 as 8 hundreds + 5 tens + 3 ones).</p>			<p>Number and Operations and Algebra: Developing quick recall of addition facts and related subtraction facts and fluency with multidigit addition and subtraction</p> <p>Children use their understanding of addition to develop quick recall of basic addition facts and related subtraction facts. They solve arithmetic problems by applying their understanding of models of addition and subtraction (such as combining or separating sets or using number lines), relationships and properties of number (such as place value), and properties of addition (commutativity and associativity).</p> <p>Children develop, discuss, and use efficient, accurate, and generalizable methods to add and subtract multidigit whole numbers. They select and apply appropriate methods to estimate sums and differences or calculate them mentally, depending on the context and numbers involved. They develop fluency with efficient procedures, including standard algorithms, for adding and subtracting whole numbers, understand why the procedures work (on the basis of place value and properties of operations), and use them to solve problems</p>			<p>Measurement: Developing an understanding of linear measurement and facility in measuring lengths</p> <p>Children develop an understanding of the meaning and processes of measurement, including such underlying concepts as partitioning (the mental activity of slicing the length of an object into equal-sized units) and transitivity (e.g., if object A is longer than object B and object B is longer than object C, then object A is longer than object C). They understand linear measure as an iteration of units and use rulers and other measurement tools with that understanding. They understand the need for equal-length units, the use of standard units of measure (centimeter and inch), and the inverse relationship between the size of a unit and the number of units used in a particular measurement (i.e., children recognize that the smaller the unit, the more iterations they need to cover a given length).</p>			
	<p>Connections to the Focal Points:</p> <p>Number and Operations: Children use place value and properties of operations to create equivalent representations of given numbers (such as 35 represented by 35 ones, 3 tens and 5 ones, or 2 tens and 15 ones) and to write, compare, and order multidigit numbers. They use these ideas to compose and decompose multidigit numbers. Children add and subtract to solve a variety of problems, including applications involving measurement, geometry, and data, as well as nonroutine problems. In preparation for grade 3, they solve problems involving multiplicative situations, developing initial understandings of multiplication as repeated addition.</p> <p>Geometry and Measurement: Children estimate, measure, and compute lengths as they solve problems involving data, space, and movement through space. By composing and decomposing two-dimensional shapes (intentionally substituting arrangements of smaller shapes for larger shapes or substituting larger shapes for many smaller shapes), they use geometric knowledge and spatial reasoning to develop foundations for understanding area, fractions, and proportions.</p> <p>Algebra: Children use number patterns to extend their knowledge of properties of numbers and operations. For example, when skip counting, they build foundations for understanding multiples and factors.</p>									

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MATHEMATIC VOCABULARY	Addends Sum Difference Fact Family	Addends Difference Fact Family Doubles Sum After Before Even tens	Hour Minute Half Hour Calendar Quarter Hour	Addend Regroup Estimate Sum Subtract Regroup Tens Ones Add	Dime Half Dollar Nickel One dollar Quarter	Pictograph Bar Graph Table Tally Mark	Area Foot Inches Perimeter Yard Meter Congruent Cube Cylinder Line of symmetry	Half Third Fourth Eighth fraction	Greater than Less than Digit Hundreds Tens Addend Difference Regroup	Divide Factor Multiply Product Remainder
ACTIVITIES	Number line walk Bingo Mini Chalkboards Flash CardS	Number line walk Bingo Mini Chalkboards Flash Cards	Judy Clock Time Watch Clock Match Mini Clocks Clock Bingo	Add 'em up Egg Carton Math	Money Bingo Shopping	Graph favorite items	Measure items Walk the Hallway Locate Geometric Shapes	Fractions Pizza & Pie Chart	Number House Mats Manipulatives	Counters The Great Cookie Divide
	Math Journals Writing Word Problems									
CROSS-CURRICULAR	LAL: <i>More or Less</i> <i>The Mission of Addition</i>	LAL: <i>The Odds Get Even</i> <i>Betcha</i> <i>My Even Day</i> <i>Even Steven and Odd Todd</i>	LAL: <i>The Best of Times</i> <i>TIME</i> <i>What Time is It?</i>	LAL: <i>The Action of Subtraction</i> <i>Hershey's Kisses Addition</i>	LAL: <i>Pigs Will be Pigs</i> <i>Alexander Who Used to be Rich Last Sunday</i> <i>Once Upon a Dime</i> <i>No Small Change</i> <i>The Penny Pot</i>	LAL: <i>Lemonade for Sale</i>	LAL: <i>How big is a Foot?</i> <i>The Greedy Triangle</i> <i>Pigs in the Pantry</i> <i>Spaghetti & Meatballs for All</i> <i>Pigs Go to Market</i> <i>Measuring Penny</i>	LAL: <i>Full House: An Invitation to Fractions</i> <i>Apple Fractions</i> <i>Give Me Half</i>	LAL: <i>A Place for Zero</i>	LAL: <i>And the Dorrbell Rang</i> <i>One Hundred Hungry Ants</i>

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	Additional LAL: - see Marilyn Burns List (Appendix) - see Authentic Literature List (Appendix) - <i>Reading Aloud Across the Curriculum</i> (Laminak & Wadsworth, 2006) Music: - Math Songs CD Technology: - Math Traveler, - Math Tool Chest										
ACCOMMODATIONS (ESL & SPECIAL EDUCATION)	Number lines and cards Draw a picture to solve a problem Counters	Counters Connecting cubes Place value model Dominoes Graph Paper Number Cards Hundred Chart	Clock Card Blanks Cards: Analog & Digital Individual Clocks	Blank & Numbered 100 Chart Counters & Cubes Place Value Models Word Cards Number Lines	Coins Numbered hundred chart	Pattern Blocks Graph Paper	Ruler Measuring cups Square Pattern Blocks Graph Paper Pattern Blocks Symmetrical Pictures	Pattern Blocks Paper Circles Graph Paper	Hundred Chart Place Value Models Word Cards Counters Math Symbols (< =>) Graph Paper		
	<ul style="list-style-type: none"> • e-glossary (www.mhschool.com/math) • Visual Models • Concrete Objects • Pictorial Models • Leading Questions • Act Out • Tools (rulers, measuring cups, scales, etc.) • Pattern Blocks • Cooperative Learning: Team Assisted Individualization (TAI) – heterogenous groups helping each other • Explicit Systematic Instruction: teacher demonstration, thinking aloud, about decision-making, opportunities for student questions and answers • Guided & Strategy Groups • Power Facts (Macmillan/McGraw-Hill) • Chapter Prescription Table (Macmillan/McGraw-Hill) • Bridge the Gaps (Macmillan/McGraw-Hill) 										
ASSESSMENT	Formative: conversation, observation, journal writing, self-assessment and daily work Summative: Chapter Tests/Quizzes, Minute Math Book Performance-based: Hands-on Activities SmartBoard Activities										

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RESOURCES	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 1	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 2 -Chapter 3	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 7	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 5 -Chapter 6	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 4	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 8	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 9 -Chapter 10	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 11	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 12 -Chapter 13	McGraw-Hill <i>Mathematics: Grade 2 (2002)</i> -Chapter 14
	Hyde, Arthur. <i>Comprehending Math.: Adapting Reading Strategies to Teach Mathematics, K-6.</i> 2006 Murray, Miki. <i>The Differentiated Math Classroom: A Guide for Teachers, K-8.</i> 2007. <i>Math Process Standards Series.</i> 2007. Heinemann. O'Connell, Susan. <i>Now I Get It: Strategies for Building confident and Competent Mathematicians, K-6.</i> 2005. Websites: <ul style="list-style-type: none"> • www.mathblaster.com • www.atmath.com • www.funbrain.com • www.mhschool.com/math • www.scholastic.com • www.elearning4kids.com • www.enchantedlearning.com • www.mathcats.com SmartBoard									
NJCCCS	4.1.2.A 4.1.2.B 4.3.2.B 4.3.2.C	4.1.2.A 4.1.2.B 4.1.2.C 4.3.2.A 4.3.2.C 4.3.2.D	4.2.2.D 4.3.2.C	4.1.2.B 4.3.2.A	4.1.2.A 4.3.2.A	4.4.2.A 4.4.2.A 4.4.2.D	4.2.2.A 4.2.2.B 4.2.2.C 4.2.2.D 4.2.2.E 4.3.2.C	4.4.2.A 4.4.2.B	4.1.2.A 4.3.2.A 4.4.2.A	4.1.2.B 4.3.2.A 4.3.2.D
	4.3.2.B 4.5.2.A 4.5.2.B 4.5.2.C 4.5.2.D 4.5.2.E 4.5.2.F									

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NCTM STANDARDS	1,2,6,8,9	1,2,6,8,9	4,5,6,8,9,10	1,6,8,9,10	1,4,6,8,9,10	1,5,6,8,10	4,6,8,9,10	1,5,6,7,8,9,10	1,2,4,5,6,8,9,10	1,4,5,6,8,9,10
		1,4,6,8,9,10		1,2,4,5,6,8,9,10			3,6,8,9,10		1,2,4,5,6,8,9,10	

* The set of three **curriculum focal points** and related connections for mathematics in grade 2. These topics are the recommended content emphases for this grade level. It is essential that these focal points be addressed in contexts that promote problem solving, reasoning, communication, making connections, and designing and analyzing representations.