

Fifth Grade Everyday Mathematics

Ventnor Schools

Time Line	Essential Questions and Unit Content	NJCCC Standards	Instructional Objectives	Assessment	Instructional Domain	Instructional Activities
UNIT 1 Begins 13 Days (2.5 Weeks) September	1. How is my SRB like an encyclopedia?	4.5: B1, C2,3,4,6	1.1 Become acquainted with the content and organization of the Math Journal and SRB	MM Journal SL	Whole class discussion, partner/group activity, independent activity	Discuss in groups the features of the journal & SRB; solve problems together; listen and respond to the poem "Arithmetic"
	2. How can divisibility rules help with mental math?	4.1: B4,5 4.2: C1, E2 4.3: A1 4.4: A2 4.5: E2, F1,5	1.2 Review arrays and use multiplication # models to represent them	MM Journal observation SL	Whole class activity using manipulatives, partner activity, independent activity; individualized activities	Build arrays with counters; draw arrays with partners; enrichment activity with perpetual calendars; reteach activity making cube arrays
	3. Why is mental math an important tool and when would I use it?	4.1: B2,4,5,6 4.3: A1, B1 4.4: C1 4.5: B1, C1, F1	1.3 Review meanings of factor/product; find factor pairs for a #; develop instant recall of multiplication facts	MM Journal Facts quiz SL	Whole-class activities, Independent activity, partner activity, individualized activities	Facts drill with whole class; discussion & journal work; partners drill each other with fact triangles; play various fact-skills games using manipulatives and Internet games
	4. Where could I find arrays and how do they help with multiplication?	4.1: B2,4,5 4.3: A1 4.4: C1, D1 4.5: B1, C1, F1	1.4 Find all the factors of a #; relate and review factors and divisibility; continue multiplication facts routine; identify odd and even #s	MM Journal Facts quiz ES SL	Whole-class activities, partner activities; independent activity; Individualized activities	Discussion on divisibility; partners play a game; facts drill with whole class; Math Boxes; enrichment game, facts games, or Internet games
		4.1: B2,4,5 4.4: A1 4.5: A2, B1,2,3,4, C1,2, D2,3,4,5, E1,2, F1,3,4,5	1.5 Test for divisibility using a calculator; introduce divisibility tests for 2,3,5,6,9, and 10; know multiplication facts; identify odd and even numbers	MM Journal Facts quiz SL EM on-line Games ES	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Discussion on divisibility followed by journal work; facts quiz together; play advanced version of Factor Captor; explore a divisibility test by 4 for enrichment; Everyday Math On-Line games (select students)
		4.1: A5,6, C3 4.4: C1 4.5: A1,3,5, B1,2, 1,2,3,4, D2,3, E2	1.6 Identify prime and composite numbers; know multiplication facts; find factors of numbers	MM Journal Facts quiz SL	Whole-class discussion & hands-on activity, indep. activity, partner activities, individualized activities	Discussion led by student discovery; journal work; game strategizing; facts quiz; game centers; investigate Goldbach's conjecture for enrichment
		4.1: A3,5, B1,4,5,6 4.2: E2 4.3: A1,B1,C1 4.5: A2,4, E1,2,3, F1,3,4,5	1.7 Represent square #s using exponents and square arrays; use exponent key on calculator; know multiplication facts	MM Journal Facts quiz SL	Whole-class discussion & hands-on activity, indep. activity, partner activities, individualized activities	Discussion & modeling of square arrays; technology reinforcement; journal work; facts quiz together; play Factor Top-It; make square arrays for reteaching or complete patterns for enrichment

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September		4.1 B.6, C1	1.8 Find square root of a square number and other positive numbers; use the square root on calculator; know multiplication facts	MM & ES Journal EM on-Line games SL	Whole-class discussion & hands-on technology activity, indep. activity, partner activities, individualized activities	Discussion of strategies; discovery-based journal work; facts quiz together; make square-number collections for extra practice or play EM On-Line games
		4.1: A5, B1,4,5 4.4: D1 4.5: A1,2,4,5, E1,3	1.9 Use factor strings and prime factorizations to represent products of factors; identify prime and composite numbers	MM Journal SL Portfolio	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Discussion led by student discovery; journal work; facts quiz together; play various games for reteaching and extra practice
		4.1: C1, A1 4.3: A1 4.5: D1,2,5,6	1.10 Review and assess students' progress on the material covered in Unit One	Unit Test Oral/Slate Portfolio	Whole-class discussion & activity, independent activities	Student-led vocabulary review; slate board and written test activity; games and computers
UNIT 2 Begins	1. How are math and social studies connected?	4.1: A1,6, B4,5, C1,2,3,4 4.2: E4 4.3: A1, C2 4.5: A2,3,4,5 B1,4, C3,4, D1, E1	2.1 Develop estimation strategies when finding an exact answer is impractical; calculate travel times for a given distance at a given rate of speed	MM Journal SL	Small-group activity, whole-class discussion and activity, partner activity, independent activity	Estimation challenge; literature link, journal work; facts games
14 days (3 Weeks)	2. In what mathematical context can probability be expressed?	4.1: A5, B1,6, C3 4.3: B1 4.5: A2,4,5, B3, D2,3,6	2.2 Review place value concepts & use of partial-sums and column-addition methods; make magnitude estimates	MM Journal SL EM on-line games	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Strategy sharing; journal work; place value puzzles for enrichment and read and write decimals for extra practice or computers
	3. What is the benefit of organizing mathematical data into plots and graphs?	4.1: B1,2,4,5, 6, C3 4.3: B1 4.4: C1 4.5: A1,2,4,5, B1,2,3, D2,3	2.3 Review the trade-first & partial differences methods for subtraction; make magnitude estimates	MM Journal SL EM on-line games	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Strategy sharing; journal work; addition game; play Subtraction Target for extra practice or breakout groups/computers
		4.1: A5, B4,5 4.3: A1, C1 4.5: A1,2, B1	2.4 Review the use of mathematical models and number sentences to solve number stories	MM Journal SL	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Strategy sharing; journal work; play High-Number Toss; challenging number stories for enrichment or write # stories for language diversity

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UNIT 2 Continues October	1. How are math and social studies connected?	4.1 B1, C3 4.3: A1 4.4: A1,2,3 4.5: A3, B3, D5, E1,2, F1,4	2.5 Provide experience with estimating reaction times and using statistical landmarks to describe experimental data; use line plots to organize data	MM Journal SL ES	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Estimation of class reaction time & self reaction time (Grab-It Gauge); recording data; journal work; display line plots for enrichment, review math terms for language diversity, or find statistical landmarks for extra practice
	2. In what mathematical context can probability be expressed?	4.4: A1,2,3, B1,2 4.5: D2,3,4, E1	2.6 Review vocabulary associated with chance events and introduce the probability meter	MM Journal SL	Whole-class discussion & activity, independent activity, partner & group activities, individualized activities	Place Post-its on probability Meter; estimation experiment; journal work; make predictions for enrichment or conduct spinner experiments for extra practice
	3. What is the benefit of organizing mathematical data into plots and graphs?	4.1: A3,6, B2,4,5, C1,3 4.3: C1, D1 4.4: A3, B1 4.5: A2,4, D1	2.7 Make and use magnitude estimates for products of multidigit numbers, including decimals; round numbers	MM Journal SL	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Journal work; play Multiplication Bull's-Eye; various work stations including games, computers, worksheets
		4.1: A3, B1, B6 4.3: A1,B1, C1,2, D1 4.5: A1,2,3, D6, E1, F1,5	2.8 Use partial-products method for multiplication of whole numbers and decimals; use magnitude estimates to place decimals in products	MM Journal SL EM on-line Games	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Strategy sharing and modeling of algorithms; journal work; manipulation of base-ten blocks for reteaching and games for extra practice; computers
		4.1: B2,4,5 4.5: A1,4,5, D3, E1,3	2.9 Review and practice with the lattice method for multiplication of whole numbers and decimals	MM Journal SL	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Strategy sharing and modeling; journal work; explore an ancient multiplication method for enrichment and games/computers
		4.1: A3,6, B6, C1 4.5: C3,4, D1,2, E1	2.10 Provide experience with comparing the relative sizes of 1 million, 1 billion, and 1 trillion and use a sample to make an estimate	MM Journal SL Project	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Solve a tapping problem with sampling strategies then share/discuss results; journal work; listening & responding to literature for enrichment; games/computers
		4.1: B6 4.2: B1 4.5: C1,2,3,4,6	2.11 Review and assess students' progress on the material covered in Unit 2	Unit Test Oral/Slate Portfolio EM on-line Games	Whole-class discussion & activity, independent activities	Student-led vocabulary review; slate board and written test activity; games and computers

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UNIT 3 Begins 13 days (2.5 Weeks) October	1. Are population estimates a reliable source of data?	4.1: A1,B1 4.2: D4 4.3: C2 4.4: A1,2, B2, C1,2 4.5: A1,2,3, C1, E1,3	3.1 Learn about the US Census & use its data to express probability in percents, decimals, or fractions; make predictions based on the collected data	MM Journal SL	Whole-class discussion & activity, independent activity, partner activities, group activity; individualized activities	Read & discuss in SRB; take a classroom census; record results on Probability Meter; journal work; Internet research for enrichment; games/computers
	2. What would life be like without a certain polygon, like the triangle?	4.1: B1, C1,2,4 4.4: A1,2,3, B1,3 4.1: B4,5 4.2: A1,D1,D4 4.5: A1, D1	3.2 Read and interpret a table of population estimates; read and write large numbers	MM Journal ES SL	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Analyze tables of data & discuss; journal work; write explanations showing understanding; rank states by their Native-American population
		4.2: E1 4.5: A2,3, B1,3,4, C2, E1, F1, F4, F5	3.3 Find the degree measures of angles using relationships between angles & circles	MM Journal SL	Whole-class discussion, independent activity, partner activities, individualized activities	Manipulation of pattern blocks; journal work; group discussions; name angles for reteaching; games
		4.2: E1 4.5: A2,3, B1,3,4, C2, E1, F1, F4, F5	3.4 Review types of angles, geometric figures, and the use of the Geometry template to measure & draw angles	MM Journal SL ES	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Demonstrate angle measurements with gestures/body movements; discussion based on discovery; journal work; games, drawings, or word wall based on indiv. Needs
		4.1: C1 4.2: A1, B2, D1,4 4.5: A2, C2,3,4,6, E2, F4	3.5 Use a compass to draw a circle and copy a line segment; explore angles formed by intersecting lines	MM Journal SL	Whole-class discussion, independent activity, partner activities, individualized activities	Manipulation with a compass; journal work; calculate angles of a baseball playing field for enrichment; build vocabulary background for reteaching; games and computers
		4.1: C1 4.2: A3,4, B1 4.5: A2, E2, F1,4,5	3.6 Explore triangle types and introduce methods for copying triangles; measure angles with a protractor	MM Journal SL	Whole-class discussion, independent activity, partner activities, individualized activities	Manipulation with drawing & measuring tools; play angle game; journal work, computers or work stations
		4.1: A6, B4,5 C1,3 4.2: A2,3,4 4.5: A2,4, C1	3.7 Classify and sort geometric shapes based on their properties	MM Journal SL	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Hands-on sorting of shapes; student-led discussion of group properties; Polygon Capture (game); journal work; listen & respond to a literature link
		4.2: A2,4 4.5: B1,4, C1,2,3,4, E1	3.8 Explore side and angle relationships in regular tessellations; define & create tessellations; estimate angles	MM Journal SL	independent activity, partner activities, individualized activities	Hands-on manipulation of shapes; play Angle Tangle & complete journal work; Literature link for enrichment or tessellate pattern blocks for extra practice

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Unit 3 November		<p>4.1 B1 4.2: A2, D1,4 4.3: B2 4.4: A1,2</p> <p>4.2: A1,3,4, B2 4.5: A1,2,4,5, D3,6, E1</p> <p>4.2: D3, E3</p>	<p>3.9 Develop an approach for finding the angle measurement sum for any polygon; determine angle measurements based on their relationships</p> <p>3.10 Review polygon attributes and vocabulary using the Geometry Template</p> <p>3.11 Review and assess students' progress on the material covered in Unit 3</p>	<p>MM Journal SL ES</p> <p>MM Journal SL</p> <p>Unit Test Oral/Slate Portfolio</p>	<p>Class discussion & group activity, independent activity, partner activities; individualized activities</p> <p>Class discussion & activity, independent activity, partner activities, individualized activities</p> <p>Whole-class discussion & activity, independent activities</p>	<p>Manipulation & discovery; line plotting on board; combine data & find a pattern; journal; tessellate quadrangles for enrichment; games & computers</p> <p>OH demonstration; draw/trace shapes from geometry template; journal; play Polygon Capture; solve tangram puzzles; literature link</p> <p>Student-led vocabulary review; slate board and written test activity; games and computers</p>
UNIT 4 Begins	1. What method of division am I most comfortable using to solve division problems?	<p>4.1: A5, B2,4,5,6, C3 4.2: A1, E3 4.3: B1, C2 4.4: C1 4.5: C1</p>	4.1 Review basic multiplication and division facts & apply them to division with 1-digit divisors; use friendly numbers for division	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Mental math orally; journal; overhead calculator demonstration; play Division Dash; practice with Fact Families; games & computers
10 days (2 weeks)	2. When is the exact answer to a division problem not the right one?	<p>4.1: A6, B2,3,4,5,6, C3 4.2: E2 4.3: B1 4.5: B2,3,4, C1,2, D2,3, E1, F1</p>	4.2 Review the partial-quotients algorithm with whole numbers; apply mental math using friendly numbers to identify partial quotients	MM Journal SL	Class activity; independent activity; group activity; individualized activities	Teacher modeling; SRB reading; journal practice; extra practice worksheet; vocabulary poster
	3. How can I use a map scale to estimate the distance between two points in the united States?	<p>4.1: A1, B1 4.2: A1, D4, E2 4.4: A1 4.5: A2, B4, C1,2,3,4, D1,2, E2,3</p>	4.3 Develop strategies for estimating straight path distances using a map scale; measure to nearest half-inch	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	American Tour discussion and vocabulary review; student-generated questions & answers; journal work; worksheet for extra practice; computers; portfolio work
November		<p>4.1: A3,5,6, B2,3,4,5,6, C1 4.3: B1 4.5: A2,4,5, B1, D1,3, E1</p>	4.4 Make magnitude estimates for quotients; use the partial-quotients algorithm with decimals	MM Journal SL EM on-line games	Class discussion & activity, independent activity, partner activities, individualized activities	Teacher-led discussion & practice; journal; Facts games; base-ten manipulation; division challenge for enrichment; computers

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Unit 4 Continues		4.1 A3,5,6, B2,4,5 4.3: A1, C1 4.5: A1,2,3,4, B1,2,3,4, D1,2,3, E1,2,3	4.5 Provide practice solving division number stories and interpreting remainders	MM Journal SL ES	Class discussion & activity, independent activity, individualized activities	Solve division stories together; journal; write & illustrate division stories; reteaching worksheet; games & computers
November		4.1: A5 4.3: A1, C1,2, D1 4.4: D1 4.5: A2,4, C2,3,4,6 4.1: B6 4.3: B1 4.4: C1, D1	4.6 Investigate the use of variables; review a variety of mathematics skills; explore division concepts 4.7 Review and assess students' progress on the material covered in Unit 4	MM Journal SL Unit Test Oral/Slate Portfolio	Class discussion & activity, independent activity, partner activities, individualized activities Whole-class discussion & activity, independent activities	Play First to 100; journal; solve open-number sentences; games & computers Student-led vocabulary review; slate board and written test activity; games and computers
UNIT 5 Begins	1. How can finding fractions & percents help me in the real world?	4.1: A1, B1 4.2: A1 4.5: A2,3,4,5, B1, C2,3,4, D3, E1, F1,4,5	5.1 Review key fraction concepts; provide practice with solving parts-and-whole problems & finding fractional parts of whole numbers	MM Journal SL ES	Class discussion; independent activity, partner activities, individualized activities	Share basic fraction ideas; solve problems in journal; read a ruler; write parts-and-whole number stories; games & computers
15 days (3 weeks)	2. What are some organized ways to present mathematical data?	4.1: B2,4,5 4.2: D2,4, E3,4 4.4: A2, B1 4.5: B4, C2, E1, F1,5	5.2 Review the whole; provide experience with mixed numbers and improper fraction concepts; add fractions using an area model	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Pattern block manipulation; journal work; solve pattern block puzzles; reteaching worksheet; computers
December	3. When is a bar graph, circle graph, or a line graph the best display for data?	4.1: A4,6 4.5: A1,2,4, E1, F1,5 4.1: A4,5, B4,5 4.2: E3 4.5: A3, C1,2, E1, F4	5.3 Compare and order fractions; review equivalent fractions; explore fraction addition 5.4 Introduce multiplication and division rules for finding equivalent fractions; use fraction sticks to find equivalent fractions	MM Journal SL MM Journal SL ES	Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities	Teacher modeling of Fraction-Stick Chart; journal practice; make fraction-strip poster; computers Split fraction sticks & formulate rules; journal work; reteaching & enrichment assignments; games

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Unit 5 Continues	1. How can finding fractions & percents help me in the real world?	4.1 A1,5, B2 4.4: D1 4.5: C1,2, E1,2, F4	5.5 Rename fractions as decimals; review rounding decimals; find decimals between pairs of numbers	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Problem solving through dictation; journal work; play Estimation Squeeze; rounding numbers worksheet
	2. What are some organized ways to present mathematical data?	4.1: A1,4,6 4.4: B2 4.5: A2,4, C1,2,6, E1,2	5.6 Provide experience with several graphic models for renaming fractions as decimals; convert between fractions, mixed numbers, and decimals	MM Journal SL ES	Class discussion & activity, independent activity, partner activities, individualized activities	Use Fraction-Stick chart to find decimal/fraction equivalents; fill in a table of decimal equivalents; use a shaded 100-grid for more practice
December	3. When is a bar graph, circle graph, or a line graph the best display for data?	4.1: A2,4, B2,4,5 4.2: D2 4.3: D3 4.5: C3,4, D3, E1,2, F1,5	5.7 Use a calculator to find decimal equivalents for fractions; differentiate between terminating & repeating decimals	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Calculator usage; strategize while playing Frac-Tac-Toe; journal; Extra practice worksheet; computers
		4.1: A2, B1,2,4,5 4.4: A1,3, E1,2, F1,3,5	5.8 Discuss the meaning and uses of percents; use a calculator to convert fractions to decimals to percents	MM Journal SL	Class discussion; independent activity, partner activities, individualized activities	Board activity; journal work; games
		4.1: A5, B2 4.2: D2,4 4.3: A1 4.4: A1,3, B3 4.5: B1,4, C2,3,4, E1,2, F1,3,5	5.9 Construct and label bar graphs; discuss properties of circle graphs; estimate the value of circle graph sectors	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Tally results from snack survey & make bar graph; teacher-prompted Q/A; journal work; act out a circle graph; portfolio assignments
		4.2: D4 4.3: A1, C1 4.4: B3	5.10 Use the Percent Circle to find the percents of circle graphs; convert between fractions and percents; estimate circle graph sector sizes	MM Journal SL	Class discussion, independent activity, partner activities, individualized activities	Percent Circle discussion & modeling; read & interpret circle graphs-journal work; conduct eye-test for future data study; measure more circles graphs
		4.1: A2,4,5 4.4: A1, B3 4.5: E1	5.11 Construct circle graphs with the Percent Circle; find fraction & percent equivalents	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Construct circle graphs from snack data; find decimal equivalents for 7ths & 8ths; journal ; games; collect graphs from magazines

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		4.3 C1 4.5: C2,4, D2,3, E2 4.2: D2 4.5: A2, C1,3	5.12 Extend the American Tour with information about mathematics instruction and related historical problems 5.13 Review and assess students' progress on the material covered in Unit 5	MM Journal SL Unit Test Oral/Slate Portfolio	Class discussion, group activity, independent activities, individualized activities Class discussion & activity, independent activities	Read an essay & solve a series of problems; interpret text & displays; journal work; Social Studies Link-American History; games/computers Student-led vocabulary review; slate board and written test activity; games and computers
UNIT 6 January 12 days (2.5 weeks)	1. What is a good sample size for a survey to be credible? 2. How important is it to record the correct data when doing an experiment or survey? 3. When is simplifying a fraction NOT the best way to report a ratio or rate?	4.3: B2 4.4: A1,2 4.5: C1, D2,3,6, F2,3 4.2: A1,6 4.4: D2,3,4, E4 4.4: D1 4.1: D4, E1,4 4.4: A3, B1,3, D1 4.5: B1,4, C1,2, D2,3, E1, F1,2,3 4.1: A2,5,6 4.3: B2 4.4: D1 4.5: C3,4, D2,3,5 4.1: A1, B1,4,6 4.3: A1, C2 4.1: B1,2,3 4.2: D4 4.4: A1,2 4.5: A1,4,5, C1,2,3,4,6, E1,2, F2,3	6.1 Review methods for organizing data using a picture, graph, table, list; describe prominent features of a data set 6.2 Develop measurement and probability concepts; investigate whether a game is a fair game 6.3 Use stem-and-leaf plots to organize data; measure lengths in metric units and use a protractor 6.4 Interpret data in stem-and-leaf plots and line plots; draw conclusions based on data landmarks 6.5 Investigate the relationship between sample size and reliability of derived results 6.6 Display and analyze data from a repeated experiment and from a survey of students	MM Journal SL EM Games on-line MM Journal SL MM Journal SL ES MM Journal SL MM Journal SL	Class discussion, group activity, independent activities, individualized activities Class discussion; partner activities, independent activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion, independent activity, partner activity, individualized activities	Record class data then describe & organize it; find landmarks; journal work; draw conclusions for enrichment; games & computers Measure body parts in customary & metric units; begin sampling a game for its fairness; practice measuring with a ruler; review metric conversions Vocabulary discussion; collect & organize data from class activity; continue sampling a game; journal work; explain advantages of a stem-and-leaf plot Identify mystery line and stem-and-leaf plots; explain strategy in writing; continue sampling a game; extra practice worksheet Conduct a sample of candy & find percentages of each color; determine best sample size; journal work; investigate other chance events Analyze & draw conclusions from game sample; use frequency tables, bar graph, and circle graph to display data; enrichment activity; games or computers

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Unit 7 Continues	1. How can number expressions have several different answers?	4.1 A2 4.3 C1 4.5: A1, B1,4, C1,2, D2,3, E1,3	7.4 Review the use of parentheses; practice translating number stories into arithmetic expressions	MM Journal SL ES	Class activity, independent activity, partner activities, individualized activities	Language Arts link- <i>ambiguous</i> ; match number stories to expressions; journal work; games; review parentheses and write number stories for extra practice
	2. In what real-world situations would I use negative numbers?	4.3: C1 4.5: B1,4, C1,2, D3, E1	7.5 Introduce the rules for order of operations	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Use a mnemonic device to model order of operations; evaluate expressions; journal work; games & computers
February	3. How is the number of zeros in a power of 10 related to the exponent of that number?	4.3: C2, D1	7.6 Review the uses of negative numbers; compare and order positive & negative numbers	MM Journal SL	Class discussion, independent activity, partner activities, individualized activities	SRB reading; graph integers on a number line; journal work; insert parentheses in number sentences; games; stock market worksheet
		4.1: C3 4.5: A2,4, C3,4, D3, E1,2, F1,2	7.7 Develop rules for adding positive and negative numbers	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Manipulation of + - counters; suggest rules based on student discovery; journal, games; write addition number stories; computers
		4.4: A1 4.5: D2,3, E1, F1	7.8 Develop a rule for subtracting positive and negative numbers	MM Journal SL	Class discussion, independent activity, partner activities, individualized activities	Manipulation of + - counters; suggest rules based on student discovery; journal, games
		4.1: B4,5 4.2: A1 4.3: A1, C1, D1 4.5: A2, B1, F3,4	7.9 Use a slide rule to add & subtract integers; model addition & subtracting by walking on a number line	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Teacher demonstration and student manipulation with slide rule; journal work; use a ruler; compare elevations for enrichment; games & computers
		4.5: A2,4, F1,5	7.10 Add and subtract positive & negative numbers using a calculator	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Overhead calculator demonstration; journal work; plot ordered numbers; games & computers
		4.2: E3 4.5: A2,4,5, E2	7.11 Review and assess students' progress on the material covered in Unit 7	Unit Test Oral/Slate Portfolio	Class discussion & activity, independent activities	Student-led vocabulary review; slate board and written test activity; games and computers

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Unit 8 Continues	1. Should fractions always be renamed with the least common denominator?	4.1 A1,2,5, C1 4.3 A1, D1 4.5: B1,2,4, C1,2,3, D2, E1,2,3, F4	8.9 Estimate and calculate the percent of a number using fractions and decimals; calculate discounts	MM Journal SL ES	Class discussion & activity, independent activity, partner activities, individualized activities	Find percents of a number as dictated by teacher; calculate discounts; journal work; solve fraction-of problems; write percent-of number stories; computers
March	2. How can the <i>unit fraction</i> be the most powerful tool when thinking proportions and discounts?	4.3: C1,2 4.5: B1,2,4, C2,3,6, D2, F1	8.10 Practice finding the whole, given a fraction or a percent of the whole	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Define unit fractions; use unit fractions to find the whole; journal work; SRB review & practice; What's My Rule worksheet
	3. How do teachers calculate test scores?	4.1: A6, C1, C4 4.4: B3 4.5: B1,4, C1,3,6, D4, E1,2	8.11 Examine populations using maps and charts; use percents to estimate rural and urban populations	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Conduct a class survey & tabulate results; investigate data in the American Tour; estimate rural & urban populations by reading circle graphs; games; write about population trends; computers
		4.1: A6, B4,5 4.3: C1 4.5: B1, C1, D3	8.12 Introduce a common denominator method for division of fractions	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Diagram division of fractions; guided discussion of division algorithms; journal work; games; read essay on division of fractions
		4.2: A2,4 4.5: C2,6, D2,4	8.13 Review and assess student's progress on the material covered in Unit 8	Unit Test Oral/Slate Portfolio	Class discussion & activity, independent activities	Student-led vocabulary review; slate board and written test activity; games and computers
UNIT 9 Begins	1. How is the earth like a coordinate grid?	4.1: C2 4.2: D2,4, E4 4.3: A1, C1 4.5: C3,4, D4	9.1 Review coordinate grids, ordered number pairs, and coordinates; use a coordinate grid	MM Journal SL	Class activity, independent activity, partner activities, individualized activities	SRB reading & practice; graph a picture; play Hidden Treasure; journal; literature link; computers
13 days (2 weeks)	2. If a room is not a perfect rectangle, how can the area be calculated?	4.2: C1, D4, E3 4.3: A1, C2, D1	9.2 Plot and read ordered number pairs; transform ordered number pairs; explore transformations of figures in a plane	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Social Studies Link; graph sailboats of different sizes; journal; find coordinates in the classroom for reteaching; draw own picture & label the coordinates
	Can a model made up of the same number of cm cubes have different volumes?	4.1: A1,3,4, C1, E3 4.3: C2	9.3 Plot and read ordered number pairs, transform ordered number pairs; explore transformations of figures in a plane	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Graph more sailboats on 4 quadrant grid & conclude rules for the transformations; make reflected pictures using mirror; games & computers

Time Line	Essential Questions and Unit Content	NJCCC Standards	Instructional Objectives	Assessment	Instructional Domain	Instructional Activities
Unit 9 Continues	1. How is the earth like a coordinate grid?	4.2 E3 4.5: B4, C3,4,E1	9.4 Review area concepts and units of area; discuss and use the formula for the area of a rectangle	MM Journal SL	Class discussion, independent activity, partner activities, individualized activities	SRB reading & teacher modeling; student exploration & formula testing; apply formulas to journal practice; language arts link
	March 2. If a room is not a perfect rectangle, how can the area be calculated?	4.2: D2,4, E4 4.5: C1,2,3,4	9.5 Identify personal references for common units of area; explore the rectangle method for finding areas of polygons	MM Journal SL ES	Class discussion & activity, independent activity, partner activities, individualized activities	Exploration and strategy sharing; journal work; practice worksheet; literature link; games & computers
	3. Can a model made up of the same number of cm cubes have different volumes?	4.2: C1, D4, E3,4 4.3: C1, D1 4.1: B1,C1,2,3,4 4.2: C1 4.3: D1 4.4: B3,4,5 4.5: A4,5, B1,4, C1,2,3,4,6 4.2: C1, D4, E3 4.1: B4 4.2: C1, D4, E3,4 4.3: C1 4.1: B5 4.2: D2,4, E3 4.5: B1 4.2: C1 4.5: A5	9.6 Develop and use formulas for the area of a triangle and the area of a parallelogram 9.7 Use sampling to estimate the percent of Earth's surface covered by water; estimate the land area of the school 9.8 Develop and use a formula for the volume of a rectangular prism 9.9 Calculate the volume of any prism by multiplying the area of its base by its height 9.10 Examine the relationships among the liter, milliliter, and cubic centimeter 9.11 Review and assess students' progress on the material covered in unit 9	MM Journal SL MM Journal SL MM Journal SL MM Journal SL Unit Test Oral/Slate Portfolio	Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities	Student discovery; teacher modeling; journal work; cutting & pasting; enrichment worksheet; games Latitude & longitude activity; plan, gather, & estimate ; journal work; write area number stories; enrichment worksheet; games & computers SRB reading & student discovery; manipulation of cm cubes; journal work Student manipulation of foam prisms; guided discussion & measurement; journal; games & computers Teacher demonstration; journal work; explore volume with grid paper; literature link; computers Student-led vocabulary review; slate board and written test activity; games and computers

Time Line	Essential Questions and Unit Content	NJCC Standards	Instructional Objectives	Assessment	Instructional Domain	Instructional Activities
Unit 10 April 12 days (2.5 weeks)	1. How is an algebraic equation like a pan balance?	4.1 A1, C2 4.5: A2, C2,3,4, D2,3,5, E1, F1,3,4,5	10.1 Introduce a pan balance approach for solving simple equations	MM Journal SL ES	Class discussion & activity, independent activity, partner activities, individualized activities	Teacher demonstration & student manipulation & discovery; journal work; social studies link using pennies; games
	2. Can Old Faithful's eruption time be predicted through an algebraic equation?	4.3: A1, C2 4.5: A2, E1, F4	10.2 Extend a pan-balance approach for solving equations to problems with two balances	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Teacher demonstration & student manipulation & discovery; journal work; write equations; practice worksheet
	3. What is the precise relationship between circumference and diameter?	4.3: A1, C2, D1 4.5: B1,4, C2, D3, E2	10.3 Translate word descriptions into algebraic expressions; to extend the "What's My Rule?" routine to rules with algebraic expressions	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Directed lesson; journal work; translate word expressions into numbers from dictation; "What's My Rule" practice worksheet; computers
		4.2: C1 4.3: A1, C2, D1 4.4: A1,3, B1,3 4.5: A3, C2,3,4, D2,3	10.4 Review the concept of rates; represent rates with formulas, tables, and graphs	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Directed lesson; journal work; make line graphs; revisit SRB for extra practice; write rate number stories
		4.1: A1, B1, C3,4 4.2: D3, E3 4.3: A1, C2 4.4: C2 4.5: A3, B1,2,,4, D4,6	10.5 Use a formula to predict the time Old Faithful's next eruption; draw a graph of predicted eruption times	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Science link- predictions on Old Faithful directed by teacher; apply the formula in journal; graph values from a table; create tables and graphs
		4.1: B4,5 4.2: D2,4, E4 4.3: A1, C2 4.4: A2 4.5: A4, C1,3,4, D2,3,5	10.6 Use a table and graph to solve and interpret a problem based on a real-world situation	MM Journal SL	Class activity, independent activity, partner activities, group activity; individualized activities	Student discovery with teacher direction; solve a footrace problem; graph a race; group members experiment with own race & graph results
		4.3: A1, C2 4.4: A1 4.5: B1,4, C2	10.7 Interpret line graphs; match mystery graphs to real-life situations	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Analytical discussion on graphs; journal work & reasoning with answers; collect data for a mystery graph; computers

Time Line	Essential Questions and Unit Content	NJCCC Standards	Instructional Objectives	Assessment	Instructional Domain	Instructional Activities
Unit 10 Continues April		4.1: B1 4.2: D4 4.5: A1, 2,3,4, 5, B1,4, C4, E1,2, F1,4	10.8 Relate the circumference to the diameter of a circle; find an approximate value for pi by measuring round objects of various sizes	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Student brainstorming; teacher demonstration; student manipulation of round objects & tape measures; find statistical landmarks to validate value of pi
		4.1: A6, C3 4.2: E3 4.5: A2,3,4,5	10.9 Measure the area of a circle by counting squares; use a formula to calculate the area of a circle	MM Journal SL ES	Class discussion & activity, independent activity, partner activities, individualized activities	Brainstorming & strategy sharing; overhead demonstration; journal; extra practice worksheet; games & computers
		4.2: E2 4.5: B2,3, F2,3	10.10 Review and assess students' progress on the material covered in Unit 10	Unit Test Oral/Slate Portfolio	Class discussion & activity, independent activities	Student-led vocabulary review; slate board and written test activity; games and computers
UNIT 11 Begins 10 days (2 weeks) May	1. How can the volume of an object be calculated if the length, width, and height can't be measured? 2. Why is a pyramid's formula for volume $1/3$ that of a prism? 3. In what real-life situations would I need to know surface area?	4.2: A3,4 4.2: A2, D1, E2 4.5: B1,2,4, C3, F1 4.2: E3 4.2: D4, E3 4.2: D4, E3	11.1 Review the names and properties of geometric solids 11.2 Review the meaning of bases of geometric solids; compare the properties of prisms, pyramids, cylinders, and cones 11.3 Verify that the volume formula for prisms also applies to cylinders; Use the formula to solve volume problems for prisms and cylinders 11.4 Explore the relationship between the volume of prisms and pyramids, and between volume of cylinders and cones 11.5 Find the volume of an irregular object by submerging it in water and measuring the volume of water it displaces	MM Journal SL MM Journal SL MM Journal SL MM Journal SL	Class activity, group activity; independent activity, partner activities, individualized activities Class discussion & group activity, independent activity, partner activities, individualized activities Class discussion & group activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & group activity, independent activity, partner activities, individualized activities	Vocabulary discussion; hands-on exploration of solids; journal work; investigating with polyhedron dice; build solids Teacher demonstration & modeling; hands-on sorting of solids; play 3-D Shape Sort; journal work; Literature Link; games Hands-on measuring; journal work; computers Teacher demonstration based on student predictions; solve volume problems; journal work; write number stories for volume Students calibrate a bottle & use to find volume of rocks (hands-on); journal work; Literature Link; games

Time Line	Essential Questions and Unit Content	NJCC Standards	Instructional Objectives	Assessment	Instructional Domain	Instructional Activities
Unit 11 Continues May/June		4.2: D2,4 4.2 D4, E3 4.1: A5 4.5: B4, C6	11.6 Review equivalencies among units of capacity; convert measurements among units of weight, capacity, and volume in cubic units 11.7 Calculate the surface area of prisms, cylinders, and pyramids 11.8 Review and assess students' progress on the material covered in Unit 11	MM Journal SL MM Journal SL ES Unit Test Oral/Slate Portfolio	Class discussion, independent activity, partner activities, individualized activities Class activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activities	Teacher demonstration; group problem solving; review equivalent measures through dictation problems; Social Studies Link; games Strategy sharing & problem solving; hands-on measurement; journal work; extra practice & enrichment worksheets; games Student-led vocabulary review; slate board and written test activity; games and computers
UNIT 12 Begins 15 days (3 weeks)	1. How many gallons of blood does the heart pump in an hour? 2. What is the mathematical process for counting combinations of choices? 3. How are ratios and rates used in everyday life?	4.1: A5 4.4: A1 4.5: C3, D6 4.1: A1 4.3: C2 4.4: A1,2,3, B1,2,3 4.4: A3, B1,2,3 4.2: E4 4.5: C3,4, E1, F4	12.1 Use a factor tree to find the prime factors of a number; find the greatest common factor and the least common multiple of two numbers 12.2 Find the number of ways in which a sequence of choices can be made; use tree diagrams; find probabilities in equally likely situations 12.3 Explore the uses of ratios and ways of expressing ratios 12.4 Model and solve problems involving ratios of part of a set to the whole set 12.5 Write and solve number models for ratio number stories 12.6 Find students' heart rates	MM Journal SL MM Journal SL ES MM Journal SL MM Journal SL MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities Class discussion & activity, independent activity, partner activities, individualized activities	Teacher directed lesson; journal work; extra practice worksheet; games & computers Solve probability problems; student brainstorming with teacher direction; journal work; make tree diagrams and spinners; games & computers; Literature Link Question/answer activity in SRB; examine trends using ratios; journal work; reteaching worksheet; Language Arts Link Manipulation of tiles to solve ratio problems from dictation; journal work; extra practice worksheet; games; computers Problem solving using manipulation of tiles; solve ratio number stories from dictation; students write # stories involving ratios Health Link; calculate heartbeats; journal work; games & computers

Time Line	Essential Questions and Unit Content	NJCCC Standards	Instructional Objectives	Assessment	Instructional Domain	Instructional Activities
Unit 12 June	1. How many gallons of blood does the heart pump in an hour?	4.1: B1 4.4: A1 4.5: A2	12.7 Find heart rates after increasing strenuous exercise; graph personal and class heart-rate data	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Students exercise; record & calculate; journal work; find landmarks from class data; create line plots; Health Link
	2. What is the mathematical process for counting combinations of choices?	4.4 B3 4.5: C1,2,4, E1, F4	12.8 Examine how the heart pumps blood throughout the body; calculate cardiac output at rest and compare it with cardiac output after exercising	MM Journal SL ES	Class discussion & activity, independent activity, partner activities, individualized activities	Health Link; journal work; games; computers; solve ratio problems from dictation
	3. How are ratios and rates used in everyday life?	4.4: A2 4.5: B1,4, E1	12.9 Plan and execute a mathematical project based on data in the American tour	MM Journal SL	Class discussion & activity, independent activity, partner activities, individualized activities	Break-out groups & choice making; computer research & SRB referencing; graphing; analyzing (one week project)
		4.5: B1,2,4, C2,3, E3	12.10 Review and assess students' progress on the material covered in Unit 12	Unit Test Oral/Slate Portfolio	Class discussion & activity, independent activities	Student-led vocabulary review; slate board and written test activity; games and computers