

Sixth Grade Everyday Mathematics

Ventnor Schools

Time Line	Essential Questions and Unit Content	NJCCC Standards	Instructional Objectives	Assessment	Instructional Domain	Instructional Activities
UNIT 6 Begins January	What algorithms do you remember for multiplying fractions?	4.1: B2 4.3: C1,D,4 4.5: A2	6.1 Review multiplication of fractions and mixed numbers	MM Journal SL	Whole class discussion, partner/group activity, independent activity; individualized activities	Discuss in groups the features of the journal & SRB; solve problems together; literature link
	Your parents were taught to divide fractions with the “Don’t ask why...just invert and multiply” rule. Why does it work?	4.1: B2,3 4.2: A1,E4	6.2 Introduce an algorithm for the division of fractions and mixed numbers	MM Journal SL Ongoing (TM p. 460)	Whole class & group activity, independent activity; individualized activities	Class survey; graph data surveys into mystery plots; identify landmarks; journal; enrichment worksheet; computers
February	What real-world situation requires the addition and subtraction of both positive and negative amounts?	4.1: B1,2,4,6 4.3: D2	6.3 Practice adding and subtracting positive and negative numbers	MM Journal SL Ongoing (TM p. 467)	Whole-class activity, Independent activity, partner activity, individualized activities	Analyze a set of data; find landmarks for data organized in line plots; compare mean & median with a spreadsheet program; games; complete name collection boxes
		4.1: B2,7 4.2: D1 4.3: D1,2	6.4 Develop rules for multiplying and dividing positive and negative numbers; and to practice these operations	MM Journal SL	Whole-class activities, partner & group activities; independent activity; Individualized activities	Play Landmark Shark after teacher demonstration; journal work; play a modified version for enrichment; computers
	What would be the additive inverse of an elevation of 1000 ft. above sea level?	4.1: A1,B1,4,6 4.3: A1,C2	6.5 Summarize the properties of number systems and operations	MM Journal SL Ongoing (TM p. 479)	Whole-class discussion & activity, independent activity, partner & group activities, individualized activities	Read an essay on line graphs then construct one; analyze a broken line graph; journal work; Landmark Shark; make a yarn broken-line graph
	Why is it that the expression $3 * 8 + 4$ does not equal 36?	4.1: B5,8 4.3: D3 4.5: A1,C5,F3	6.6 Review the rules for the order of operations; and to evaluate expressions containing parenthesis	MM Journal SL Ongoing (TM p.484)	Whole-class discussion & independent activity, partner activities, individualized activities	Read side-by-side and stacked bar graphs; draw & interpret broken-line graphs; journal work; enrichment worksheet; computers
	What is the importance of translating languages and how does it relate to mathematics?	4.1: B1,2,4,6 4.2: E2 4.3: D3,4 4.5: C5	6.7 Review relation symbols, number sentences, and equations; to identify number sentences as true or false; and to translate between English and number sentences	MM Journal SL Ongoing (TM p. 489)	Whole-class discussion & activity, independent activity, individualized activities	Read a step graph; draw a step graph for cab fares; interpret a step graph for plumber’s rates; journal work; extra practice worksheet; computers

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February	<p>In what ways does a pan balance resemble an algebraic equation?</p> <p>How could a common everyday task like calculating a car's gas mileage be replaced with an algebraic equation?</p>	<p>4.2: D1 4.3: C1,D1 4.5: D5</p> <p>4.5: A3,4</p> <p>4.2: D2 4.3: A1,C1</p> <p>4.2: D1 4.3: C1,D1 4.5: F3</p> <p>4.2:D1 4.3: A3,C1,D1,4 4.5: A1</p>	<p>6.8 Solve equations by trial and error and by cover-up method</p> <p>6.9 Solve pan-balance problems as models for equation-solving techniques</p> <p>6.10 Explore a method for solving equations by transforming them into equivalent equations of the form $x = a$</p> <p>6.11 Solve equations by transforming them into equivalent equations of the form $x = a$</p> <p>6.12 Graph inequalities in one variable on a number line</p>	<p>MM Journal SL Ongoing (TM p. 497)</p> <p>MM Journal SL Ongoing (TM p. 500)</p> <p>MM Journal SL Ongoing (TM p. 510)</p> <p>MM Journal SL Ongoing (TM p. 514)</p> <p>MM Journal SL</p>	<p>Whole-class discussion, independent activity, individualized activities; whole class activity</p> <p>Whole-class discussion, independent activity, partner & group activities, individualized activities</p> <p>Whole-class activity, partner activity, independent activities; individualized activities</p> <p>Whole-class discussion, independent activity, partner & group activities, individualized activities</p> <p>Whole-class discussion & activity, independent activities</p>	<p>SRB reading and modeling; interpret circle graphs from surveys; make estimations; journal work; extra practice worksheet; form a human circle graph with class; computers</p> <p>Discussion led by student discovery; journal work; play Landmark Shark; solve a paint problem for enrichment; reteaching worksheet</p> <p>Identify statistics presented in colorful ways; analyze a pictograph displaying incorrect information; compare line graphs of persuasion; journal work; create persuasive graphs; correct a misleading pictograph</p> <p>Practice conversions between kitchen units; analyze a newspaper article with numerical information; journal work; devise a plan to collect & analyze data from class; build background for math words</p> <p>Slate board and written test activity; games and computers</p>
UNIT 7 Begins	In what real life situations do we count on the probability of events occurring?	<p>4.1: A1,7,B1,2,7,8 4.3: C1,D1,2,4 4.5: A1,E3</p> <p>4.1: C3 4.4: B2,3,4,5 4.5: A2</p>	<p>6.13 Review and assess students' progress on the material covered in Unit 6</p> <p>7.1 Review the basic vocabulary and concepts of probability; and to find probabilities for outcomes when they are equally likely</p>	<p>Unit Test Oral/Slate Portfolio</p> <p>MM Journal SL Ongoing (TM p. 541)</p>	<p>Whole-class discussion & activity, independent activity, partner activities, individualized activities</p> <p>Whole-class discussion & activity, independent activity, partner activities, individualized activities</p>	<p>Strategy sharing; journal work; write decimal number stories; model addition & subtraction with base-ten blocks; reteaching worksheet; computers</p> <p>Teacher-led problem solving & strategy sharing for estimation; journal work; reteaching worksheet; computers</p>

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UNIT 7 Continues	In what ways can random numbers be generated in real life?	4.4: C2,3,D1	7.2 Investigate random numbers; and to use number cards to generate random numbers within a given range	MM Journal SL Ongoing (TM p. 549)	Whole-class discussion, independent activity, partner activities, individualized activities	Teacher demonstration of lattice; journal work; draw and interpret a step graph; reteaching worksheet; games & computers
		4.4: B4	7.3 Simulate a situation using random numbers; and to use simulation results to estimate the chance of each possible outcome	MM Journal SL Ongoing (TM p. 554)	Whole-class discussion & activity, independent activity, group activity, individualized activities	Practice powers of 10 in journal; play Doggone Decimal; build background for math words; computers
February	If your sports team were to enter a 12 team tournament, what would be the probability of your team winning if every team had an equal random chance?	4.4: A1,C1,D1 4.5: A2	7.4 Use tree diagrams to find expected outcomes for chance events; and to compare actual results of a simulation to expected outcomes	MM Journal SL Ongoing (TM p. 559)	Whole-class discussion & activity, independent activity, partner activities, individualized activities	SRB reading & teacher modeling & problem solving; journal work; display & read large numbers on a calculator for reteaching; Literature Link for enrichment; computers
		4.1: B2 4.4: C1	7.5 Use tree diagrams to help calculate the probabilities of the outcomes of chance events	MM Journal SL Ongoing (TM p. 565)	Whole-class discussion, independent activity, partner activities, individualized activities	SRB reading & practice with a place-value chart; write numbers in words; journal work; games & computers
		4.3: C3 4.4: C1	7.6 Use Venn diagrams to analyze situations	MM Journal SL Ongoing (TM p. 569)	Whole-class discussion & activity, independent activity, partner activities, individualized activities	SRB reading & calculator practice; journal page together; play Exponent Ball; journal work; translate scientific notation in a Science Link; explore prefixes that express large numbers
		4.4: A2,3,C1,2,3	7.7 Analyze games of chance to determine whether or not they are fair games	MM Journal SL	Whole-class discussion & activity, independent activity, partner activities, individualized activities	SRB reading; journal practice; find ground areas of buildings for enrichment; play games for extra practice
March	How does the process of elimination test taking strategy affect your probability of getting a multiple choice question correct?	4.3: C1 4.5: C1,5,D2,3,4,6	7.8 Investigate the effects of guessing on multiple-choice tests	MM Journal SL Ongoing (TM p. 583)	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Experience scientific notation first hand on a calculator; Teacher-guided practice in SRB; journal work; games for review; partners create numbers to display in scientific notation on a calculator

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March		4.1: B1	7.9 Review and assess students' progress on the material covered in Unit 7	Unit Test Oral/Slate Portfolio	Whole-class discussion & activity, independent activity, partner activities, group activity; individualized activities	Teacher modeling & problem solving ; more practice & review in SRB; journal work; play games for extra practice; make a poster displaying ways to represent division
UNIT 8 Begins	What are three examples of comparisons of quantities with different units (rates) in your daily life? A whale's heart beats 72 times in 9 minutes. At this rate, how many times does it beat in 5 minutes?	4.3: A1,B1,C2	8.1 Review rates; to use the per-unit-rate and rate-table methods of solving rate problems; and to introduce proportions as models for rate situations	MM Journal SL Ongoing (TM p. 605,606)	Whole-class discussion & activity, independent activity, individualized activities	Guided practice; journal work; reteaching worksheet; games & computers
		4.3: B1	8.2 Use proportions to model and solve rate problems	MM Journal SL Ongoing (TM p. 613)	Whole-class discussion & activity, independent activities	Slate board and written test activity; games and computers
		4.1: B1 4.5: A2,3,4	8.3 Introduce cross multiplication as a way to test whether two fractions are equivalent; and to use cross multiplication to solve proportions	MM Journal SL Ongoing (TM p. 619)	Whole-class discussion, independent activity, partner activities, individualized activities	Directed lesson & journal practice; strategy sharing; make patterns by coloring grids for reteaching; build background for math words
	If a food with 190 total calories has 130 calories from fat, what is the percentage (ratio) of fat in that food?	4.1: B1 4.3: A1, B1, C2 4.5: A2	8.4 Estimate students' calorie use per day; and to practice solving rate problems	MM Journal SL Ongoing (TM p. 623)	Whole-class discussion, independent activity, partner activities, individualized activities	Student brainstorming with teacher direction; journal work with calculators; Enrichment worksheet & Literature Link; computers
		4.3: B1 4.4: A1,2,3 4.5: A3,4,C2,3,4,D1	8.5 Use nutrition information to plan a healthful meal	MM Journal SL Ongoing (TM p. 631)	Whole-class discussion, independent activity, partner activities, individualized activities	Teacher-led discussion & problem solving; journal work; practice division with decimals; What's My Rule worksheet with geometric patterns; computers
	What is the main difference between a ratio and a rate?	4.3: A1, C1	8.6 Review notations for and meanings of ratios; and to solve problems involving part-to-part and part-to-whole ratios	MM Journal SL Ongoing (TM p. 639)	Whole-class discussion & activity, independent activity, partner activities, individualized activities	Essay reading in SRB; evaluate formulas in journal; What's My Rule practice; Extra Practice worksheet; Derive a brick wall formula for Enrichment; computers

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UNIT 8 Continues April	How could you estimate your next 40 question test score using a proportion if you got 18 out of 20 questions correct on your last quiz?	4.1: A4 4.4: C1	8.7 Solve percent problems by writing and solving proportions	MM Journal SL Ongoing (TM p. 645)	Whole class discussion & activity; independent activity, partner activities, individualized activities	Strategy sharing & journal work; develop a line graph to represents calculated rates; compare ways of representing rates; write number stories involving rates; Extra Practice worksheet
		4.1: A1	8.8 Estimate percent equivalents for fractions; and to calculate what percent of total calories comes from fat, protein, and carbohydrate	MM Journal SL Ongoing (TM p. 650)	Whole class discussion & activity; independent activity, partner activities, individualized activities	Science Link: examine formulas for the distance traveled by a falling object; make tables & draw graphs; journal work; conduct a ball throwing experiment; research Galileo
	How does a photographer use size-change factors in their field?	4.2: C1,D2 4.3: C2 4.5: C5	8.9 Explore the use of ratios to describe size changes; and to use a variety of notations to show the size-change factor	MM Journal SL Ongoing (TM p. 656)	Class discussion, independent activity, partner activities, individualized activities	Essay reading in SRB; teacher-directed lesson; journal practice; play Spreadsheet Scramble after teacher demonstration; work with computer spreadsheets
	What relationship can be established from the fact that similar polygons have corresponding sides?	4.2: A3,4,6,7,C1	8.10 Explore the properties of similar polygons; and to use ratios to find the lengths of corresponding sides of similar polygons	MM Journal SL Ongoing (TM p. 664)	Whole-class discussion, partner activities, independent activities; individualized activities	Play Spreadsheet Scramble; SRB review and journal work; solve a Spreadsheet Scramble problem; games & computers
	In a part-to-whole ratio, renamed as an n-to-1 ratio, what does the variable represent?	4.3: C1 4.5: C5	8.11 Compare ratios by renaming them as n-to-1 ratios; and to introduce the Golden Ratio	MM Journal SL Ongoing (TM p. 672)	Class discussion & activity, independent activity, partner activities, individualized activities	Read graphs & answer questions; draw graphs to illustrate stories; match mystery graphs with data representation; journal work; construct mystery graphs
	How has the Golden Ratio been used in architecture and art?	4.3: C1	8.12 Explore Golden Rectangles and the Golden Ratio	MM Journal SL	Whole-class discussion, partner activities, independent activities	Compare jobs by analyzing potential profits; graphing & problem solving; games & computers
	How is the Fibonacci sequence utilized in real life?	4.1: B8 4.5: A5, D1,2	8.13 Review and assess students' progress on the material covered in Unit 8	Unit Test Oral/Slate Portfolio	Whole-class discussion & activity, independent activities	Slate board and written test activity; games and computers

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UNIT 9 Begins	How does the partial products multiplication algorithm relate to the distributive property?	4.1: B1,2,4,6	9.1 Explore the distributive property of multiplication over addition and over subtraction using area models	MM Journal SL	Class discussion & activity, independent activity, individualized activities	Paper folding & making connections; teacher modeling; journal work; use fraction cards for more practice; manipulate pattern blocks
		4.1 B1,4,6, C3 4.4: A1	9.2 Recognize the general patterns used to write the distributive property; and to apply the distributive property to simplify numerical and algebraic expressions	MM Journal SL	Class discussion & activity, partner activity, independent activity, individualized activities	Strategy sharing & teacher prompted questions; journal work; enrichment worksheet; games & computers
	How do like terms allow us to simplify algebraic expressions?	4.1: B8 4.2: E1 4.3: C1	9.3 Simplify algebraic expressions by combining like terms	MM Journal SL Ongoing (TM p. 713)	Class discussion & activity, independent activity, partner activities, individualized activities	Teacher modeling and problem solving; journal work; explore the Egyptian method of writing fractions; Explore Zeno’s paradox; games
		4.3: C1 4.5: C5	9.4 Simplify expressions by first eliminating parenthesis, and then combining like terms	MM Journal SL Ongoing (TM p. 717)	Whole-class discussion, partner activities; group activities, independent activities	Student demonstrations and teacher-led discussion; board practice; journal work; fractions in poetry; model fractions using pattern blocks; use classroom clock as fraction models
	What is the difference between an expression and an equation?	4.3: C1 4.5: A3,4	9.5 Simplify and solve equations	MM Journal SL Ongoing (TM p. 723)	Class discussion and activity, partner activities, individualized activities	Teacher modeling & problem solving; geography link; Extra Practice worksheet; games & computers
		4.1: B3 4.5: A2,3,4	9.6 Write and solve equations based on a given formula	MM Journal SL Ongoing (TM p. 729)	Class discussion, independent activity, partner activities, individualized activities	Partner practice in journal; solve a fraction multiplication number story for enrichment; paper folding for reteaching
	What are three “real life” applications of computer spreadsheets? What are the formulas for area, perimeter, and circumference? Why do we have to use variables?	4.5: F2,6	9.7 Learn how data are entered and displayed in a computer spreadsheet program	MM Journal SL	Class discussion & activity, independent activity, individualized activities	Strategy sharing and student demonstrations; teacher-directed questions; journal work; extra practice worksheets; games & computers
		4.2: E4	9.8 Review and use formulas for perimeter, circumference, and area	MM Journal SL Ongoing (TM p. 739)	Class discussion, independent activity, partner activities, individualized activities	Teacher-prompted questions; journal work; manipulation of base-10 blocks; collect examples of rational numbers; games & computers
May						

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Unit 9 Continues	<p>How does the scientific technique of “units analysis” help us validate formulas in mathematics?</p> <p>How does the trial and error strategy help us in problem solving?</p> <p>What real-world situation would require knowing the Pythagorean Theorem to find a missing length of a triangle?</p>	<p>4.2:A5,C1,D4,E4</p> <p>4.2: A5,E3 4.3: C1 4.4: C1</p> <p>4.1: B6,C1,3,4 4.3: C1</p> <p>4.1: B1 4.4: A1 4.5: A2,3,4</p>	<p>9.9 Review volume formulas for rectangular prisms, cylinders, and spheres</p> <p>9.10 Approximate the solutions of equations using a trial and error method</p> <p>9.11 Use formulas to solve problems by substituting for the variables and solving the resulting equations</p> <p>9.12 Explore the relationship between the square of a number and it’s square root; and to verify and apply the Pythagorean Theorem</p>	<p>MM Journal SL</p> <p>MM Journal SL Ongoing (TM p. 752)</p> <p>MM Journal, SL, Ongoing (TM p. 757,758)</p> <p>Unit Test Oral/Slate Portfolio</p>	<p>Class discussion & activity, independent activity, individualized activities</p> <p>Class discussion, independent activity, partner activities, individualized activities</p> <p>Class discussion, independent activity, partner activities, individualized activities</p> <p>Whole-class discussion & activity, independent activities</p>	<p>Strategizing and teacher-modeling; oral practice; use a calculator in journal work; find close equivalents from teacher dictation; computers</p> <p>Convert data; draw circle graphs using geometry template; Science Link activity in journal; formulate a survey question, collect data, and graph it; research recycling</p> <p>Teacher-directed lesson; journal work; take a survey & graph the results; build background for math words; computers</p> <p>Slate board and written test activity; games and computers</p>
May	<p>How could the height of a tree be estimated by using the shadow and height of a person standing next to the tree?</p>	<p>4.2:C1,D5,E4 4.4: B1</p> <p>4.2:A1,3,4 4.5: A5,B1,2,D1,2</p>	<p>9.13 Find Missing lengths in similar figures using a size-change factor</p> <p>9.14 Review and assess students’ progress on the material covered in Unit 9</p>	<p>MM Journal SL Ongoing (TM p. 770)</p> <p>Unit Test Oral/Slate Portfolio</p>	<p>Class discussion & activity, independent activity, partner activities, individualized activities</p> <p>Class discussion, independent activity, partner activities, individualized activities</p>	
Unit 10 Begins	<p>What are three examples of real life isometric transformations? (reflections, rotations, etc.)</p>	<p>4.1: B1 4.5: A1,3,C6,E2,F6</p>	<p>10.1 Review regular tessellations; to introduce semi regular tessellations; to introduce notation for both; and to find the eight semi regular tessellations</p>	<p>MM Journal SL Ongoing (TM p. 792)</p>	<p>Class discussion & activity, independent activity, partner activities, individualized activities</p>	

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May/June			Review and assess students' progress on the material covered in Units 1-10	End of Year Assessment	Class discussion, group activity, independent activities, individualized activities	
June	What are the common bonds between math and science?		Completion of the 8 cross curricular linked projects	Project Masters	Class discussion, group activity, independent activities, individualized activities	