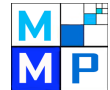


Holt Grade 8 2007–2008 Mathematics Curriculum Guides

	Wisconsin Mathematics Standard	MPS Learning Target	Wisconsin Assessment Descriptors for Mathematics	Curriculum
Throughout The Year	A. Mathematical Processes	<i>Note: Mathematical processes need to be embedded in all mathematical strands throughout the school year. Math processes are assessed on the WKCE-CRT and reported as a separate proficiency area. For example, students are asked to provide written justifications and explanations, pose problems, and represent concepts.</i>	<p>1) Reasoning: Use reasoning and logic to:</p> <ul style="list-style-type: none"> • Perceive patterns • Formulate questions • Make conjectures • Identify relationships • Pose problems • Justify strategies • Test reasonableness of results <p>2) Communication: Communicate mathematical ideas and reasoning using the vocabulary of mathematics in a variety of ways (e.g., using words, numbers, symbols, pictures, charts, tables, diagrams, graphs, and models).</p> <p>3) Connections: Connect mathematics to the real world as well as within mathematics.</p> <p>4) Representations: Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>5) Problem Solving: Solve and analyze routine and non-routine problems.</p>	



Time	Chapter	MPS Learning Targets	Wisconsin State Framework Assessment Descriptors	District Model CABS
September	Chapter 1: Principles of Algebra	<p>Algebraic Relationships: Learning Target #6 Analyze, describe, and generalize mathematical and real-world patterns of change and functional relationships with emphasis on the role of variable quantities. (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9)</p>	<p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Algebraic Relationships: F.a.2 Analyze, generalize, and represent patterns of change (e.g., direct and inverse variations, including numerical sequences, patterns to a given term, algebraic expressions and equations). (1.1, 1.2) F.b.3 Emphasize solve linear equations. The complete 10th grade descriptor is: Solve linear and quadratic equations, linear inequalities and systems of linear equations and inequalities. (1.6, 1.7, 1.8, 1.9) F.b.4 Model and solve a variety of mathematical and real-world problems by using algebraic expressions, equations and inequalities (e.g., linear, exponential, quadratic). (1.9) F.b.5 Translate between different representations and describe the relationship among variable quantities in a problem (e.g., tables, graphs, functional notations, formulas). (1.2) F.c.6 Demonstrate understanding of the Distributive, Commutative, and Associative properties by evaluating and simplifying expressions. The complete 10th grade descriptor is: Demonstrate understanding of properties by evaluating and simplifying expressions. (1.3, 1.4, 1.5, 1.6, 1.7, 1.8) F.c.7 Demonstrate understanding of properties by solving linear equations. The complete 10th grade descriptor is: Demonstrate understanding of properties by solving linear and quadratic equations, linear inequalities, and systems of linear equations and inequalities with one or two variables. (1.8, 1.9)</p>	<p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Algebraic Relationships: “Representing Hats” “How Many Books?” “Equations and Table”</p>

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<p>September / October</p>	<p>Chapter 2: Rational Numbers</p>	<p>Number Operations and Relationships: Learning Target #1 Explain comparisons and operations on real numbers and use proportional reasoning (including ratios and percents) to solve problems with and without contexts. (2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8)</p>	<p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Number Operations and Relationships: B.a.1 Compare and order real numbers. (2.1, 2.2) B.b.4 Compare, perform, and explain operations on real numbers with and without context (e.g., transitivity, rate of change, exponential functions, scientific notation, roots, powers, reciprocals, absolute value, ratios, proportions, percents). (2.3, 2.4, 2.5, 2.6, 2.7, 2.8)</p>	<p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Number Operations and Relationships: “Largest Number”</p>
<p>October</p>	<p>Chapter 3: Graphs, Functions, and Sequences</p>	<p>Algebraic Relationships: Learning Target #7 Model, justify, and solve linear equations and relationships using translations among tables, graphs/grids, and symbolic forms. (3.1, 3.2, 3.3, 3.4, 3.5, 3.6)</p>	<p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Algebraic Relationships: F.a.1 Describe, recognize, interpret and translate graphical representations of mathematical and real-world phenomena on coordinate grids (e.g., slope, intercepts, rate of change, linear and non-linear functions, and quadratic, exponential and constant functions). (3.1, 3.2, 3.3, 3.4, 3.5) F.a.2 Analyze, generalize, and represent patterns of change (e.g., direct and inverse variations, including numerical sequences, patterns to a given term, algebraic expressions and equations). (3.6) F.b.4 Model and solve a variety of mathematical and real-world problems by using algebraic expressions, equations and inequalities (e.g., linear, exponential, quadratic). (3.1, 3.2, 3.5) F.b.5 Translate between different representations and describe the relationship among variable quantities in a problem (e.g., tables, graphs, functional notations, formulas). (3.4, 3.5)</p>	<p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Algebraic Relationships: “Number Pattern” “Triangle Pattern” “Equations and Table”</p>

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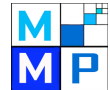
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<p>January</p>	<p>Chapter 8: Perimeter, Area, and Volume</p>	<p>coordinate geometry, and use proportional reasoning, transformations, and spatial visualization in problem-solving situations. (7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9)</p> <p>Measurement: Learning Target #3 Select and use appropriate tools and procedures to solve problems requiring direct measurements and indirect measurements (e.g., perimeter, area, surface area, volume, angles, and segments). (7.3, 7.4, 7.6)</p> <p>Measurement: Learning Target #3 Select and use appropriate tools and procedures to solve problems requiring direct measurements and indirect measurements (e.g., perimeter, area, surface area, volume, angles, and segments). (8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9)</p>	<p>supplementary angles, sum of angles in a triangle). (7.1, 7.2, 7.3, 7.4, 7.6, 7.9) C.b.5 Use transformations and symmetry to solve problems. (7.7, 7.8) C.c.7 Use the two-dimensional rectangular coordinate system to describe and characterize properties of geometric figures. Identify and apply symmetry about an axis. (7.7, 7.8) C.c.8 Use the two-dimensional rectangular coordinate system and algebraic procedures to describe and characterize geometric properties and relationships (e.g., slope, intercepts, parallelism, and perpendicularity, Pythagorean Theorem, distance formula). (7.5)</p> <p>Measurement: D.c.5 Emphasize similar polygons. The complete 10th grade descriptor is: Solve for angles and segments in similar polygons and arcs in circles. (7.3, 7.4, 7.6)</p> <p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Measurement: D.c.3 Determine the perimeter/area of two-dimensional figures. (8.1, 8.2, 8.3) D.c.4 Determine the surface area/ volume of three-dimensional figures. (8.4, 8.5, 8.6, 8.7, 8.8, 8.9)</p>	<p>“Parallel / Perpendicular” “Similar Triangles” “Complementary and Supplementary Angles” “Reflecting”</p> <p>Measurement: “Two Triangles”</p> <p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Measurement: “2-D Cross” “Side of Square” “Different Ways” “Rectangular Lot” “Dimension Dilemma” “Non-shaded Portion” “Circle in a Square” “Stacking Blocks” “Oatmeal Container” “3-D Tower” “Packing Procedure”</p>
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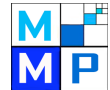
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<p>February</p>	<p>Chapter 9: Data and Statistics</p>	<p>Geometry: Learning Target #2 Analyze relationships among figures and their parts, including the Pythagorean Theorem, using properties of plane and coordinate geometry, and use proportional reasoning, transformations, and spatial visualization in problem-solving situations. (8.3, 8.4, 8.5, 8.7, 8.8, 8.9, 8.10)</p> <p>Statistics and Probability: Learning Target #4 Design and conduct investigations, display data using appropriate representations, analyze and summarize data using measures of central tendency and variation, and evaluate methods and conclusions. (9.1, 9.2, 9.4, 9.5, 9.7, 9.8)</p>	<p>Geometry: C.a.1 Identify, describe and analyze properties of figures, relationships among figures and relationships among their parts (e.g., parallel, perpendicular and congruent sides, various types of angles and triangles, complementary and supplementary angles, sum of angles in a triangle). (8.3) C.b.4 Use proportional reasoning to solve congruence and similarity problems (e.g., scale drawings and similar geometric figures). (8.10) C.b.6 Visualize 3-dimensional figures in problem-solving situations. (8.4, 8.5, 8.7, 8.8, 8.9, 8.10)</p> <p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Statistics and Probability: E.a.1 Organize, display, compare, and interpret data in a variety of ways in mathematical and real-world contexts (e.g. histograms, line graphs, stem and leaf plots, scatter plots, box-and-whiskers, bar charts, Venn diagrams, tables, circle graphs). Grade 9 emphasize organize, display, compare and interpret data in a variety of ways in mathematical and real-world contexts e.g. histograms, stem-and-leaf plots, scatter plots, boxplots, and tables. (9.2, 9.4, 9.5, 9.7, 9.8) E.a.2 Emphasize organize, display, compare and interpret data in a variety of ways in mathematical and real-world contexts e.g. histograms, stem-and-leaf plots, scatter plots, boxplots, and tables. The complete 10th grade descriptor is: Interpret, analyze, and make predictions from organized and displayed data (e.g., measures of central tendency, such as mean, median, mode, and, measures of variation such as standard deviation, mean, median, mode, range, dispersion, outliers, line of best fit, percentiles). (9.1)</p> <p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all</i></p>	<p>Geometry: “Scott’s Reasoning” “Paper Tube” “Cube Configuration” “Sadie’s Perspective” “Making Conjectures”</p> <p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Statistics and Probability: “Reading Survey” “Marissa’s Bike Trip” “New Show Survey” “Venn Diagram” “School Supplies” “Mary’s Mean” “Representative?” “Box Plot” “Scatter Plot” “Histogram”</p> <p><i>We hope these district CABS will be used to continue and</i></p>
<p>February / March</p>	<p>Chapter 10: Probability</p>		<p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all</i></p>	<p><i>We hope these district CABS will be used to continue and</i></p>

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<p>March</p>	<p>Chapter 11: Multi-Step Equations and Inequalities</p>	<p>Statistics and Probability: Learning Target #5 Design and analyze experiments with simple and complex events, predict likelihood of outcomes, and justify strategies based on theoretical and experimental probabilities. (10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9)</p> <p>Algebraic Relationships: Learning Target #7 Model, justify, and solve linear equations and relationships using translations among tables, graphs/grids, and symbolic forms. (11.2, 11.3, 11.4, 11.5, 11.6)</p>	<p><i>lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Statistics and Probability: E.a.2 Emphasize organize, display, compare and interpret data in a variety of ways in mathematical and real-world contexts e.g. histograms, stem-and-leaf plots, scatter plots, boxplots, and tables. The complete 10th grade descriptor is: Interpret, analyze, and make predictions from organized and displayed data (e.g., measures of central tendency, such as mean, median, mode, and, measures of variation such as standard deviation, mean, median, mode, range, dispersion, outliers, line of best fit, percentiles). (10.6 E.a.3 Analyze, evaluate, and critique methods and conclusions of statistical experiments (e.g., randomness, sampling techniques, surveys). (10.3, 10.8 E.b.4 Emphasize on likelihood of occurrence of simple and complex events using experimental and theoretical probability. The complete 10th grade descriptor is: Determine the likelihood of occurrence of simple and complex events (e.g., combinations and permutations, fundamental counting principle, experimental versus theoretical probability and independent, dependent and conditional probability). (10.1, 10.2, 10.4, 10.5, 10.7, 10.8, 10.9)</p> <p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Algebraic Relationships: F.b.3 Emphasize solve linear equations. The complete 10th grade descriptor is: Solve linear and quadratic equations, linear inequalities and systems of linear equations and inequalities (11.2, 11.3, 11.4, 11.5, 11.6) F.c.6 Emphasize demonstrate understanding of the</p>	<p><i>expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Statistics and Probability: “Chip Pairs” “Probability Candy” “Math Girls”</p> <p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Algebraic Relationships: “ Sam’s Idea” “Distributive Property” “Equivalent or Not?”</p>
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<p>April</p>	<p>Chapter 12: Graphing Lines</p>	<p>Algebraic Relationships: Learning Target #8 Explain use of properties (e.g., commutative, associative, distributive) to evaluate expressions and solve linear equations. (11.2, 11.3, 11.4, 11.5, 11.6)</p> <p>Algebraic Relationships: Learning Target #6 Analyze, describe, and generalize mathematical and real-world patterns of change and functional relationships with emphasis on the role of variable quantities. (12.1, 12.2, 12.3, 12.4, 12.5, 12.6)</p> <p>Algebraic Relationships: Learning Target #7 Model, justify, and solve linear equations and relationships using translations among tables, graphs/grids, and symbolic forms. (12.1, 12.2, 12.5, 12.6, 12.7)</p> <p>Algebraic Relationships: Learning Target #8 Explain use of properties (e.g., commutative, associative, distributive) to evaluate expressions and solve linear equations. (12.3, 12.4)</p>	<p>Distributive, Commutative, and Associative properties by evaluating and simplifying expressions. The complete 10th grade descriptor is: Demonstrate understanding of properties by evaluating and simplifying expressions. (11.1) F.c.7 Demonstrate understanding of properties by solving linear equations. The complete 10th grade descriptor is: Demonstrate understanding of properties by solving linear and quadratic equations, linear inequalities, and systems of linear equations and inequalities with one or two variables. (11.2, 11.3, 11.4, 11.5, 11.6)</p> <p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Algebraic Relationships: F.a.1 Describe, recognize, interpret and translate graphical representations of mathematical and real-world phenomena on coordinate grids (e.g., slope, intercepts, rate of change, linear and non-linear functions, and quadratic, exponential and constant functions). (12.1, 12.2, 12.3, 12.4, 12.5, 12.6) F.a.2 Analyze, generalize, and represent patterns of change (e.g., direct and inverse variations, including numerical sequences, patterns to a given term, algebraic expressions and equations). (12.1, 12.2) F.b.4 Model and solve a variety of mathematical and real-world problems by using algebraic expressions, equations and inequalities (e.g., linear, exponential, quadratic). (12.6) F.b.5 Translate between different representations and describe the relationship among variable quantities in a problem (e.g., tables, graphs, functional notations, formulas). (12.1, 12.2, 12.5, 12.6, 12.7) F.c.7 Demonstrate understanding of properties by solving linear equations. The complete 10th grade descriptor is: Demonstrate understanding of properties by solving linear and quadratic equations, linear inequalities, and systems of linear equations and inequalities with one or two variables.</p>	<p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Algebraic Relationships: “Slope” “Similarities and Differences” “All About the Line” “Create Your Own”</p>
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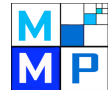
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<p>April / May</p>	<p>Chapter 13: Sequences and Functions</p>	<p>Statistics and Probability: Learning Target #4 Design and conduct investigations, display data using appropriate representations, analyze and summarize data using measures of central tendency and variation, and evaluate methods and conclusions. (12.7)</p> <p>Algebraic Relationships: Learning Target #6 Analyze, describe, and generalize mathematical and real-world patterns of change and functional relationships with emphasis on the role of variable quantities. (13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7)</p> <p>Algebraic Relationships: Learning Target #7 Model, justify, and solve linear equations and relationships using translations among tables, graphs/grids, and symbolic forms. (13.4, 13.5, 13.6)</p>	<p>(12.3, 12.4)</p> <p>Statistics and Probability: E.a.2 Emphasize organize, display, compare and interpret data in a variety of ways in mathematical and real-world contexts e.g. histograms, stem-and-leaf plots, scatter plots, boxplots, and tables. The complete 10th grade descriptor is: Interpret, analyze, and make predictions from organized and displayed data (e.g., measures of central tendency, such as mean, median, mode, and, measures of variation such as standard deviation, mean, median, mode, range, dispersion, outliers, line of best fit, percentiles). (12.7)</p> <p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p> <p>Algebraic Relationships: F.a.1 Describe, recognize, interpret and translate graphical representations of mathematical and real-world phenomena on coordinate grids (e.g., slope, intercepts, rate of change, linear and non-linear functions, and quadratic, exponential and constant functions). (13.4, 13.5, 13.6) F.a.2 Analyze, generalize, and represent patterns of change (e.g., direct and inverse variations, including numerical sequences, patterns to a given term, algebraic expressions and equations). (13.1, 13.2, 13.3, 13.4, 13.5, 13.7) F.b.5 Translate between different representations and describe the relationship among variable quantities in a problem (e.g., tables, graphs, functional notations, formulas). (13.4, 13.5, 13.6)</p> <p>Mathematical Processes: <i>Mathematical Processes are embedded throughout all lessons when, for example, students are asked to provide written justifications and explanations, pose problems, and represent concept.</i></p>	<p>Statistics and Probability: “Scatter Plot”</p> <p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of learning) initiatives promoted by the MMP.</i></p> <p>Algebraic Relationships: “Similarities and Differences” “Bacterial Growth” “Number Pattern” “Triangle Pattern”</p> <p><i>We hope these district CABS will be used to continue and expand the formative assessment (i.e. assessment for learning vs. assessment of</i></p>
<p>May / June</p>	<p>Chapter 14: Polynomials</p>			

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		<p>Algebraic Relationships: Learning Target #8 Explain use of properties (e.g., commutative, associative, distributive) to evaluate expressions and solve linear equations. (14.1, 14.2, 14.3, 14.4, 14.5, 14.6)</p>	<p>Algebraic Relationships: F.c.6 Emphasize demonstrate understanding of the Distributive, Commutative, and Associative properties by evaluating and simplifying expressions. The complete 10th grade descriptor is: Demonstrate understanding of properties by evaluating and simplifying expressions. (14.1, 14.2, 14.3, 14.4, 14.5, 14.6)</p>	<p><i>learning) initiatives promoted by the MMP.</i></p> <p>Algebraic Relationships: “Equivalent or Not”</p>
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