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Comprehensive Math & Science Plan

Mathematics Pacing Guide 8th Grade Glencoe



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Grade 8

	Common Core State Standards for Mathematics	Program Materials	Formative Assessments	Summative Assessments
September Domains: Expressions and Equations 8.EE The Number Systems 8.NS	<p>Cluster: Work with radicals and integer exponents.</p> <p>Standards: 8.EE.1 8.EE.2 8.EE.3 8.EE.4</p> <p>Cluster: Know that there are numbers that are not rational, and approximate them by rational numbers.</p> <p>Standards: 8.NS.1 8.NS.2</p> <p>Cluster: Understand the connections between proportional relationships, lines, and linear equations.</p> <p>Standard: 8.EE.5</p>	<p>Chapter 1- Section 2: Variables, Expressions, and Properties</p> <p>Chapter 1- Section 7: Writing Expressions and Equations</p> <p>Chapter 1- Section 8: Solving Addition and Subtraction Equations</p> <p>Chapter 1- Section 9: Solving Multiplication and Division Equations</p> <p>Chapter 2- Section 7: Solving Equations with Rational Numbers</p> <p>Chapter 2- Section 9: Scientific Notation</p> <p>Chapter 3- Section 1: Square Roots</p> <p>Chapter 3- Section 2: Estimating Square Roots</p> <p>Chapter 4- Section 1: Ratios and Rates</p> <p>Chapter 4- Section 2: Rate of Change</p> <p>Chapter 4- Section 3: Slope</p> <p>Chapter 4- Section 4: Solving Proportions</p>	<p>Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu</p> <p>8.EE.1 Grade 9 CR: "Exponents" (Under High School Resources, Supporting Documents, CRs, Volume 2)</p> <p>8.EE.3 Grade 8 CABS: "Scientific Notation"</p> <p>8.NS.2 Grade 8 CABS: "Number Line Location", "Ordering Numbers", "Least to Greatest"</p>	<p>Teachers should select items that cover a range of cognitive demand levels for a "balanced summative assessment". Include only those items which support the mathematics taught. Choose items from the following resources or from other sources as appropriate: the Mid-Chapter Practice Tests and End of Chapter Practice Tests, Self-Check Quizzes and Chapter Tests from the Assessment Resource Book (multiple choice and free response items), MathScape (Self-Check Quizzes), and the ExamView Test Generator.</p>



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October	Domains: Expressions and Equations 8.EE Functions 8.F	Cluster: Solve linear equations in one variable. Standard: 8.EE.7 8.EE.8	Chapter 10- Section 1: Simplifying Algebraic Equations Chapter 10- Section 2: Solving Two-step Equations Chapter 10- Section 3: Writing Two-Step Equations Chapter 10- Section 4: Solving Equations with Variables on Each Side Chapter 10- Section 5: Inequalities Chapter 10- Section 6: Solving Inequalities by Adding or Subtracting Chapter 10- Section 7: Solving Inequalities by Multiplying or Dividing MathScape: Exploring the Unknown- Lesson 10: Simplify and Solve MathScape: Exploring the Unknown- Lesson 11: Staying Balanced	Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu 8.EE.8 Grade 9 CRs: “Air Conditioner Problem”, “Car Rentals”, “Cellular Telephone Company” (Under High School Resources, Supporting Documents, CRs, Volume 1) Grade 9 CRs: “Mowing Lawns”, “Solving Problems Using Systems of Equations” (Under High School Resources, Supporting Documents, CRs, Volume 2)	
		Cluster: Define, evaluate, and compare functions. Standards: 8.F.1 8.F.2	Chapter 11- Section 1: Sequences Chapter 11- Section 2: Functions Chapter 11- Section 3: Graphing Linear Functions Chapter 11- Section 4: The Slope Formula		



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November/December	Domains: Expressions and Equations 8.EE Functions 8.F	Cluster: Define, evaluate, and compare functions. Standards: 8.F.1 8.F.2 8.F.3	Chapter 11- Section 5: Slope-Intercept Form Chapter 11- Section 7: Graphing Systems of Equations Chapter 11- Section 8: Graphing Linear Equations	Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu 8.F.1 Grade 9 CRs: "Find a Function", "Drawing Linear Graphs from Equations" (Under High School Resources, Supporting Documents, CRs, Volume 2)	
		Cluster: Use functions to model relationships between quantities. Standards: 8.F.4 8.F.5 Cluster: Analyze and solve linear equations and pairs of simultaneous linear equations. Standard: 8.EE.7	Chapter 12- Section 1: Linear and Nonlinear Functions Chapter 12- Section 2: Graphing Quadratic Functions MathScape: Family Portrait- Lesson 7: The Area of a Projected Image MathScape: Family Portrait- Lesson 10: Folds and Regions	8.F.3 Grade 8 CR: "CR#2", 2008 8.F.4 Grade 8 CABS: "Create Your Own" Grade 9 CABS: "Sally's Doorbell", "Unidel" 8.F.5 Grade 8 CABS: "Marissa's Bike Trip" Grade 8 CR: "The Walking Problem", 2010-2011	



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January	Domains: The Number System 8.NS Geometry 8.G	<p>Cluster: Know that there are numbers that are not rational, and approximate them by rational numbers.</p> <p>Standards: 8.NS.1 8.NS.2</p>	<p>Chapter 3- Section 1: Square Roots Chapter 3- Section 2: Estimating Square Roots Chapter 3- Section 3: The Real Number System</p>	<p>Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu</p>	
		<p>Cluster: Understand and apply the Pythagorean Theorem.</p> <p>Standards: 8.G.6 8.G.7 8.G.8</p>	<p>Chapter 3- Section 4: The Pythagorean Theorem Chapter 3- Section 5: Using the Pythagorean Theorem Chapter 3- Section 6: Distance on the Coordinate Plane MathScape: Roads and Maps- Lesson 4: Right Triangles MathScape: Roads and Maps- Lesson 5: Exploring the Pythagorean Theorem MathScape: Roads and Maps- Lesson 6: Using the Pythagorean Theorem</p>	<p>8.G.7 Grade 8 CABS: “Screen Size”, “Sam’s Solution”</p> <p>Grade 8 CR: “Pythagoras”, 2010-2011</p> <p>Grade 9 CR: “Take Me Out to the Ballgame” (Under High School Resources, Supporting Documents, CRs, Volume 2)</p>	



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February	Domain: Geometry 8.G	Cluster: Understand congruence and similarity using physical models, transparencies, or geometry software. Standards: 8.G.1 8.G.2 8.G.3 8.G.4 8.G.5	Chapter 4- Section 5: Similar Polygons Chapter 6- Section 1: Line and Angle Relationships Chapter 6- Section 1b: Constructing Parallel Lines Chapter 6- Section 2: Triangles and Angles Chapter 6- Section 5: Congruent Polygons Chapter 6- Section 7: Reflections Chapter 6- Section 8: Translations Chapter 6- Section 9: Rotations	Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu 8.G.1 and 8.G.3 Grade 9 CABS: "My Initials" 8.G.5 Grade 10 CABS: "What Do You Know?"	



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March	Domain: Geometry 8.G	<p>Cluster: Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.</p> <p>Standard: 8.G.9</p>	<p>Chapter 7- Section 4: Three-Dimensional Figures</p> <p>Chapter 7- Section 5: Volumes of Prisms and Cylinders</p> <p>Chapter 7- Section 6: Volumes of Pyramids and Cones</p> <p>MathScape: Shapes and Space- Lesson 5: All Boxed Up</p> <p>MathScape: Shapes and Space- Lesson 6: Wrapping Up Prisms</p> <p>MathScape: Shapes and Space- Lesson 7: Outside and Inside</p> <p>MathScape: Shapes and Space- Lesson 8: Putting It Together</p> <p>MathScape: Shapes and Space- Lesson 9: Pyramid Tips</p> <p>MathScape: Shapes and Space- Lesson 10: Cutting the Cone</p>	<p>Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu</p> <p>8.G.9 Grade 9 CR: “New Cans” (Under High School Resources, Supporting Documents, CRs, Volume 1)</p> <p>Grade 10 CABS: “Tommy’s Deck”</p>	



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April	Domain: Statistics and Probability 8.SP	Cluster: Investigate patterns of association in bivariate data. Standards: 8.SP.1 8.SP.2 8.SP.3	Chapter 9 - Section 4: Measures of Central Tendency Chapter 9 - Section 4b: Investigation: Mean, Median and Mode Chapter 9 - Section 5: Measures of Variation Chapter 9 - Section 7: Misleading Graphs and Statistics Chapter 11 - Section 5a: Graphing Calculator Investigation: Families of Linear Graphs Chapter 11 - Section 6a: Problem-Solving Strategy: Use a Graph Chapter 11 - Section 6: Scatter Plots Chapter 11 - Section 6b: Graphing Calculator Investigation: Scatter Plots MathScape: Family Portraits - Lesson 5: What's In an Equation?	Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu 8.SP.1 Grade 8 CABS: "Scatter Plot" 8.SP.1-3 Grade 9 CRs: "Basic Skills Tests", "Life Expectancy", "Oil Changes and Engine Repair" (Under High School Resources, Supporting Documents, CRs, Volume 1)	



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May/June	Domain: Statistics and Probability 8.SP	Cluster: Investigate patterns of association in bivariate data. Standards: 8.SP.1 8.SP.2	MathScape: Looking Behind the Numbers- Lesson 5: Comparing Sizes MathScape: Looking Behind the Numbers- Lesson 6: Is There a Relationship? MathScape: Looking Behind the Numbers- Lesson 7: What Type of Relationship Is It? MathScape: Looking Behind the Numbers- Lesson 8: The Mysterious Footprint Chapter 8- Section 1: Probability of Simple Events Chapter 8- Section 2: Counting Outcomes Chapter 8- Section 3: Permutations Chapter 8- Section 4: Combinations MathScape: Looking Behind the Numbers- Lesson 9: On Tour MathScape: Looking Behind the Numbers- Lesson 11: The Battle of the Bands MathScape: Looking Behind the Numbers- Lesson 12: The Demo CD	Classroom Assessments Based on Standards (CABS) and Constructed Response items (CRs) can be found on the Milwaukee Mathematics Partnership (MMP) website: www.mmp.uwm.edu	



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Note: It is the pacing authors' opinion that out of the 27 Common Core State Standards for Grade 8 mathematics, one standard is not reflected in the eighth grade Glencoe textbook. That standard is 8.SP.4 (understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table).

Additionally, the eighth grade pacing authors found that there are two standards that are lacking depth in the eighth grade curriculum:

1) 8.EE.6 and 2) 8.F.2, Standard 6 in the Equations and Expressions domain is addressed in separate lessons, an indirect measurement lesson and a slope-intercept form lesson; however, it lacks a connection between the two concepts. Standard 2 in the Functions domain is partially addressed in that it is lacking a comparison of functions in relation to rate of change.